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Standard of Indiana in New Deal to Assure Itself Production

By V. B. Guthrie
Managing Editor, National Petroleum News

CLEVELAND, March 16 NEGOTIATIONS for the securing of control by the Standard Oil Co. of Indiana of properties in Mexico and the eastern part of this country of the Pan-American Petroleum & Transport Co., E. L. Doheny interests, form the latest chapter in the efforts of the Indiana Standard interests to assure itself a crude supply against future needs.

The deal has taken on more interest than usual in the mind of the public because Col. R. W. Stewart, chairman of the board of the Standard of Indiana, is in Mexico examining properties of the Doheny organization at a time when his presence as a witness is desired by the government at the Teapot Dome trial at Cheyenne, Wyo.

However, since Colonel Stewart became the dominating executive with his company in 1918, his thoughts and efforts have been, in good measure, directed toward securing a supply of crude which would be ample insurance against the future needs of his big investment in refining and marketing facilities.

Makes Enviable Growth

The company has made a record second to none of the former Standard Oil group in its material and financial growth, and yet, because of the nature and location of its properties, it has had to watch other companies expand in the producing branch of the industry, where its efforts to date have not been so successful. Carrying total assets at the end of 1924 of $361,481,000, its total investment in other major subsidiaries, including all its production properties and much besides, was $126,710,000. This included the Dixie Oil Co., Midwest Refining Co., and half interest each in the Sinclair Crude Oil Purchasing Co. and the Sinclair Pipe Line Co.

In its search for a crude supply the Indiana Standard years ago acquired the Dixie Oil Co., a producing company operating principally in the Mid-Continent field, which has not developed any great amount of production. Officials of this company have recently been in Venezuela, looking over oil properties there.

Salt Creek Is Passing

During the crude shortage of 1920 the company took over the Midwest Refining Co., largely for the purpose, Colonel Stewart has stated, to secure through it a supply of Salt Creek crude. However, the last year or so has seen the passing of this field as a prolific flowing territory to a pumping basis with diminishing production. Now the company faces the problem of cutting down the supply of crude put through the Casper, Wyo., refinery of the Midwest to send the oil to its Whiting, Ind., refinery through the Sinclair pipe line put in after the Teapot Dome deal, or running the oil through the Midwest plant and not having much of a supply for the pipe lines.

The deal by which the company bought a half interest in the Sinclair Pipe Line Co. and the Sinclair Crude Oil Purchasing Co. was to strengthen the Standard of Indiana's crude supply.

Gulf-Standard Negotiations

Then some three years ago the company negotiated with the Gulf Oil Corp., one of the major oil interests of the country, particularly strong in its production branches in the Mid-Continent section of this country and in South America. As Colonel Stewart told a senate investigating committee at Washington at one time, he was particularly anxious to secure the Gulf properties because they fitted "end to end" with the properties of his own company. These negotiations were dropped because of failure to come to any terms on the price.

After this came the announcement that the Prairie Oil & Gas Co., through purchase of the Producers & Refiners Corp. refining and marketing properties, had stepped out of its role of being exclusively an institution for purchasing and producing Mid-Continent crude and selling it to eastern companies on the pipe line system. This made it even more necessary for the Indiana Standard to strengthen itself with production properties.

If the present reported negotiations should go through and the Standard of Indiana secure the Mexican properties and those along the eastern seaboard of this country, of the Mexican Petroleum Co.—or the Pan-American Petroleum & Transport, as the holding interests are known—it would not have such an "end to end" proposition as Colonel Stewart described the Gulf Oil Corp. properties, but still something comparable in the way they would fit into the Indiana Standard scheme of operations.

Both the Gulf and Doheny interests have a big refinery each on the Gulf coast, the former at Port Arthur, which can be fed with either domestic oil by pipe line or oil delivered by tanker, the latter at Destrehan, on the Mississippi near New Orleans, which operates entirely on oil delivered by tanker. The latter is more advantageously located than the former for shipping into the middle section of this country, by using the Mississippi, which has been contemplated by the Standard in times past.

Both the Gulf and Doheny interests have foreign production, either in Mexico or South America or both, together with fleets of tankers, the acquisition of which in either case by the Indiana Standard would make that company at once a strong factor in the world oil market.

While the Gulf interests are stronger in marketing facilities in this country than the Doheny interests, both are op-

erating in the same general territory, the southeastern part of this country. It is worthy of conjecture whether the Standard of Indiana, if it desires to extend its marketing district in this country, might not undertake to do it in the southeastern states, which will undoubtedly be greatly developed in coming years, the Florida boom this year being an example. In this district the Indiana Standard would come into competition with other Standard Oil companies and major marketing companies; but the Independent jobbing industry is not as highly developed here as in other parts of the country.

Of course, what the Gulf Oil Corp. has that the Mexican Petroleum does not have is crude production in the Mid-Continent section of this country. The Gulf Co. is a large producer of crude in this country, most of it being located in Kansas, Oklahoma and Texas.

In properties in Mexico, through the Mexican Petroleum the Indiana Standard would secure developed producing properties, an immense territory as yet undeveloped in leaseholds and fee acreage, two pipe line systems and a refinery at Tampico, capable of running 105,000 barrels of oil daily. Pan-American's crude production, at present is around 77,000 barrels in the southern fields and 50,000 barrels of the heavier Panuco crude.

If Sinclair Consolidated properties should also figure in the deal, as is reported in some quarters, the Indiana Standard, or whatever the controlling interest was, would secure crude production in the Mid-Continent district, together with a pipe line system to the Gulf Coast, which might possibly be used to carry oil from seaboard back to the Mid-Continent and thence by another Sinclair pipe line to the refineries at Whiting and East Chicago.

Opened the "Golden Lane"

The Pan American interests are best known to oil men in this country through their control of a good share of the phenomenal production on the so-called "Golden Lane" in Mexico, where wells flowed along the Dos Bocas-Alamo fault at the rate of 100,000 barrels a day or more, unless choked down. Mr. Doheny holds the credit for opening Mexico as an oil producing country. His operating company there, Huasteca Petroleum Co., holds tremendous amounts of land there, capable of future development, and production from the knife-edge fault is still extensive.

Until the last few years the Doheny interests, as far as their operations in this country were concerned, were principally marketers of fuel oil. The extensive production of the lighter crude in Mexico gave them a supply of gasoline, however. They own a big refinery at Destrehan, near the mouth of the Mississippi below New Orleans, where refining processes have been worked out to take a considerable portion of gasoline from the Mexican crude. Marketing facilities have been developed in the southern states. Gasoline is barged up the Mississippi river to Memphis and distributed inland by tank car.

The Doheny interests also secured a half interest in the American Oil Co., a former Independent marketing company in Baltimore, distributing over considerable eastern territory and with a branch in Pittsburgh.

Through the fact that railroads along the Mississippi river have special low rates to compete with water transportation, the Doheny interests are in a position to move gasoline from their Destrehan refinery up well into Standard of Indiana territory. This has been done the past year or so. These interests have also branched out into the construction of service stations operated under their own name, both in Louisiana and California.

At various points along the Atlantic coast the company has established distributing facilities for marketing its fuel oil.

To Separate His Interests

Negotiations with the Pan-American by the Standard of Indiana involve a reorganization which has been contemplated for some time by E. L. Doheny, controlling factor in the Pan-American which will allow him to devote himself to the California properties, which include production, a refinery and marketing facilities.

Coming Meetings

American Oil Men's Assoc., Athletic Club, Kansas City, Mo., March 17, 18, 19.

American Assoc. of Petroleum Geologists, New Elks Club, Wichita, Kan., March 26, 27, 28.

American Assoc. of Oil Burner Manufacturers, Edgewater Beach Hotel, Chicago, April 1, 2, 3.

American Chemical Society, Petroleum Division, Baltimore, Md., April 6 to 10.

National Petroleum Marketers Ass'n., Congress Hotel, Chicago, Ill., April 7, 8, 9.

Independent Oil Men's Assoc. of New England, Worcester, Mass., April 8.

National Petroleum Assoc., Hotel Riverside, Cambridge Springs, Pa., April 22, 23.

Assoc. of Natural Gasoline Manufacturers, Mayo Hotel, Tulsa, Okla, April 22, 23.

Minnesota Petroleum Assoc., West Hotel, Minneapolis, Minn., April 22, 23.

Natural Gas Assoc., Atlantic City, N. J., sometime in April. Date not set.

National Association of Purchasing Agents, Milwaukee Auditorium, Milwaukee, Wis., May 25 to 28.

This was in mind, it is said, several months ago, when the announcement was made of an issue of $12,000,000 in securities of the Pan-American Western Co., which was to act as a holding company for the western interests. When the government prosecuted the Elk Hills naval lease contract this was withdrawn.

At that time, it is said, a group of New York bankers, among which was Blair & Co., held an option on the Class A stock which is closely held by Mr. Doheny and his associates. Class A stock carries the voting rights. Blair & Co. was said to represent a majority of the non-voting Class B stock.

In the background of this deal was a merger of the Pan-American and the Standard of Indiana, which might have included the Sinclair Consolidated Oil Corp. also. This option on Class A stock was allowed to lapse, but was recently renewed, it is said. What companies are now involved are not known definitely, except that, following a visit to Mexico by Mr. Doheny and H. G. Wylie, head of some of his Mexican properties, Colonel Stewart immediately went to Mexico to inspect the properties.

Doheny's Statement

Mr. Doheny's statement on the deal is as follows:

"The published statement that the sale of the Mexican properties of the Pan-American Petroleum & Transport Co. is contemplated, is inaccurate. It is true that negotiations are under way in connection with a plan which is in the nature of a reorganization, and which if carried out, will result in the Mexican properties of the Pan-American Petroleum & Transport Co. and the California properties of that company being segregated, so that each will be operated by a separate corporate organization. If this plan is carried out it is probable that new interests will come into the Pan-American organization, but the California properties will continue to be operated by a corporation organized by Pan-American interests.

"There may be changes in the personnel of the two companies, but Mr. Doheny will always remain interested and active in the Pan-American affairs, and he will give special attention to the California end of the business which has become increasingly important in recent years.

"Instead of the amount involved being $125,000 000 as stated in papers, the book value of the stock is $193,000,000, and the market value $220,000.000 while the yearly production is about 60,000,000 barrels.

"The gross sales of the Pan-American Petroleum & Transport Co. for January were $8,581,289, and for February, $9,723,908."

It appears negotiations in progress include the separation of the Doheny subsidiaries, and the splitting of Pan-American dominance over the group. Under the new arrangement there would probably spring up two gigantic petroleum producing and marketing compa-

nies, one known as the Pan-American Eastern Co., and the other called Pan-American Western Co. It seems likely that eastern organization might be made to embrace the British Mexican Petroleum Co., but that control of properties under this head would remain in the United States. Management seems likely to be directed by Standard of Indiana influences.

In the western field where Doheny admits that he plans to concentrate his personal activities under a company which he would control, it is expected that some sort of merger would be brought about to give the company a large increase in production to operate its 40,000-barrel refinery at Los Angeles harbor, and supply its service stations, which will reach farther than 500 miles along the southwestern coast.

The prevailing impression of oil operators, in California, is that Mr. Doheny will undertake to buy for his western company the California Petroleum Corp. which, through its four or five operating subsidiaries, chief of which is the Petroleum Midway Co., has about 35,000 barrels a day of production in California fields. There has been much talk to the effect that he might buy the General Petroleum Corp., which is producing 27,000 barrels a day, but it is considered doubtful that the Barnesons of San Francisco would consider selling, now that they have gone into the service station business from Seattle to Oakland.

Description of Properties

Besides leaseholds, developed properties and undeveloped fee acreage in Mexico, the Pan-American owns vast physical assets that include two pipe line systems and the Tampico refinery. These facilties are operated through subsidiaries known as the Huasteca Petroleum Co., and the Mexican Petroleum Corp.

The two pipe line systems connect the refinery with the southern district light oil fields on the one hand and the Panuco district, heavy oil development area, on the other. The south country system is about 100 miles, extending from a point north of the Tuxpam river to Tampico and connecting the plant with the Chapapoto Nune-Tierra Blanca, Cerro Viejo and Cerro Azul pools, among others.

Huasteca Petroleum Co.'s production in the south country has been averaging around 77,000 barrels daily, the last few months, and represents approximately 65 per cent of the current recovery of crude from this part of Mexico.

The Panuco heavy oil district production of the Doheny interests was averaging more than 55,000 barrels daily, Mar. 1 principally from wells on the Chapacao hacienda, which lies east of Ebano and north of Cacalillao development.

A 60-kilometer pipe line (a kilometer is ⅝ mile) has just been completed from Ebano to the Doheny terminals across the river from Tampico.

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Oil Lawyers Prepared for Georgia Fight

ATLANTA, GA., March 17.—Hearing on the temporary injunction issued Feb. 28 by the superior court here to restrain leading gasoline distributing companies from increasing the price of motor fuel to more than 27 cents including state taxes and inspection fees totaling 3½ cents, has been postponed until March 24. The hearing was to have been held today but City Attorney Mayson of Atlanta, one of the complainants, is ill.

The defendants in the suit brought by the attorney general of Georgia and city attorney of Atlanta, are the Standard Oil Co. of Kentucky; Galena Signal Oil Co. of Texas; The Texas Co., Pan-American Southern Petroleum Co., Reed Oil Corp.; Wofford Oil Co. of Georgia (owned by Pure Oil Co.); Continental Oil Co. of Atlanta, and Gulf Refining Co.

Conspiracy in restraint of trade in that the defendants had agreed on prices for gasoline, is charged in the state-city suit. Oil companies deny there was any agreement or conspiracy. The jurisdiction of the court will also be attacked by their attorneys.

Tomorrow's hearing is on the temporary injunction. Hearing of the case on its merits has been set for the term of court which begins May 4.

Texon Receivership Suit Hearing Postponed

Staff Special

HOUSTON, March 12.—Hearing has been postponed at least two weeks in the federal court receivership proceedings brought at Dallas against the Texon Oil & Land Co., a Delaware corporation, which was to have come up today before Judge W. H. Atwell. Date for the hearing will be set later. The suit, which was brought by D. J. McAuliffe, seeks to disclose facts and bring about an accounting with regard to properties in the Big Lake oil field of Reagan county.

Dubbs vs Burton Case To Be Resumed

Staff Special

CHICAGO, March 12.—Hearings in the case of the Universal Oil Products Co., against the Standard Oil Co. of Indiana will be resumed in Kansas City on or about April 14, the tentative date agreed upon by the lawyers on both sides. When this hearing is finished it will conclude the rebuttal testimony of the U. O. P. before the master in chancery.

The case has been in progress for a number of years but little was done on it during the war. The Universal Oil Products Co., owners of the Dubbs cracking process started the litigation against the Standard, alleging infringement by the defendant company in using and leasing the Burton cracking process.

Patent attorneys for the U. O. P., including F. L. Belknap, an eminent Chicago lawyer, have been in consultation in the city for several days preparing evidence which they will submit to the court at the resumption of the hearing. The evidence and arguments to come up in the rebuttal amount to about 15,000 typewritten pages, exclusive of a large array of exhibits.

Crude Price Changes

March 10.—Midwest Refining Co. and Ohio Oil Co. advanced Wyoming and Montana crudes from 15 to 40 cents. Grass Creek, light Elk Basin, Cat Creek, Mont., and Hogback, N. M., crudes advanced 15 cents; Lance Creek and Osage 20 cents; Rock Creek 30 cents; and Big Muddy 40 cents. All Wyoming and Montana crudes were brought to $2.15, excepting Big Muddy and Rock Creek, which were made $2.00, and Salt Creek and Sunburst, which remain unchanged at $1.60 and $1.20 respectively.

* * *

March 12.—Standard Oil Co. of Louisiana reduced all grades of Smackover crude and Cotton Valley, 15 cents. On March 13 Texas Co. and Gulf Production Co. met the reduction, and Louisiana Oil Refining Corp. met on Cotton Valley, but reduced Smackover from 5 to 15 cents, which was met by the Shreveport-El Dorado Pipe Line Co. The two latter companies are therefore, maintaining prices from 5 to 15 cents higher on Smackover than those posted by the Standard, and their schedules are: 28 and above, unchanged at $1.60, which is 15 cents above the Standard price; 27 to 27.9, reduced 5 cents to $1.50, which is 10 cents above Standard; 26 to 26.9, reduced 10 cents to $1.40, 5 cents above Standard 25 to 25.9, cut 10 cents to $1.30, 5 cents above; and below 25, cut 15 cents to $1.15, which is same as Standard's price.

Prices posted by the Standard, Gulf and Texas Cos. are those in the crude table at the back of this publication.

* * *

March 16.—Ohio Oil Co. advanced Mule Creek, Wyo., crude 25 cents to $1.50 per barrel.

Offers Tank Car Notes

NEW YORK, March 14.—Cities Service Tank Line Co. has issued through Halsey, Stuart & Co. $2,900,000 of 5 per cent equipment trust gold certificates due serially over 10 years at prices to yield 4.75 to 5.4 per cent. The certificates are secured by 2274 steel tank cars of which 783 will be new. The certificates are guaranteed by the Cities Service Co.

NEWTON, IA.—William Grosvenor has indefinitely discontinued business at his service station here.

George Moore Organizes Marketing Firm

Staff Special

CHICAGO, March 12.—George N. Moore, until recently head of the Moore Refining Co. of Arkansas City, Kan., and formerly president of the Shaffer Oil & Refining Co., with headquarters in Chicago, has organized a carload marketing company here. The new firm is to be known as the Lake Petroleum Co., and the main office will be at 208 South La Salle st., Chicago.

Mr. Moore is president of the company. J. J. Purcell who was associated with him in the Moore Refining Co., is secretary and will be in the Chicago office with Mr. Moore. T. J. McCormick, the vice president, will have charge of the sales office in Omaha. Mr. McCormick was formerly district manager for the Shaffer Oil & Refining Co. in Omaha, and before that was identified with the Sinclair Refining Co.

The Kansas City office will be in charge of F. E. Gallagher, and R. C. McIntyre will handle sales in and around Minneapolis.

Marketing Summary

Oklahoma-Kansas—Gasoline and kerosene cheaper. Natural gasoline weaker. Lower prices for gas and fuel oils increase buying. Lube active at unchanged prices. Waxes quiet.

Chicago—Furnace oil fairly active. Gasoline dull and price sags further. Fuel oil quiet.

Pennsylvania—All products quiet. Prices generally easier.

Gulf Coastal—Lube market satisfactory at unchanged prices.

New York Export—Diesel oil is 35 cents per barrel cheaper. Bunker oil is steady. Gasoline and kerosene quiet. Lubes marking time. Wax is softer.

New Orleans Export—Gasoline weaker. Kerosene also easier. Lubes active and firm. Gas oil steady. Bunker oil quiet and unchanged.

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2 Cent Tax in Nebraska

LINCOLN, March 12.—The 2-cent gasoline tax bill passed the house of representatives in Nebraska today and became a law, carrying the emergency clause and thus is effective in 10 days. The legislation met but little opposition except in the senate, the house vote was 72 to 23.

The tax is paid by dealers on sworn monthly sales reports, all dealers being licensed in order to keep track of them. Tax must be paid on all gasoline except that used in farm tractors, stationary engines, airplanes, motor boats and dry cleaners. The proceeds mostly are to match the federal aid on state highways, but some money is to be expended on county secondary roads.

National Petroleum News

Compilation Of Mid-Continent Refinery Operations

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Gasoline Output in Mid-Continent Increased and Stocks Pile Up

By Fast Wire Service

TULSA, March 17

DURING the week ended March 13, 118 Mid-Continent refiners reporting to National Petroleum News increased their daily average runs to stills 16,324 barrels per day to a daily average throughput of 298,353 barrels. This was one of the largest increases of the year, and refiners in all states charged more crude to their stills than during the preceding week. The largest percentage of increase was 8.8 per cent at the 21 reporting Kansas plants, which more than offset the decrease made by this group last week.

Gasoline stocks at the reporting plants increased 6,765,619 gallons, by far the greatest addition in any one week this year and stood at 79,282,988 gallons. This increase was due not only to additional output but to the falling off in shipments, which totaled 21,028,278 gallons, compared with 25,608,252 gallons during the week ended March 6. Production was 27,793,897 gallons, more than a million gallons in excess of the next previous week.

Production of gasoline exceeded shipments in all states, and the ratio of sales to production was the lowest in Oklahoma where 45 reporting plants moved only 61.6 per cent of their output, and increased stocks 3,963,724 gallons to 40,196,094 gallons. Compared with the reports from 117 refineries during the first week in January of this year, gasoline shipments were practically the same during the past week, but stocks had increased from 59,006,827 gallons to 79,282,898 gallons.

Kerosene stocks increased 1,258,432 gallons to 21,472,204 gallons, and as with gasoline, shipments fell below output in all states. Kansas and north and central Texas refiners shipped practically their entire output, but stocks increased 837,248 gallons in Oklahoma. Shipments from the area as a whole were only 82.6 per cent of production.

Shipments of gas and fuel oil were in excess of production, and stocks declined 208,507 gallons to 118,587,489 gallons. Oklahoma refiners produced 11,760,669 gallons and shipped 13,803,800 gallons, decreasing their stocks over 2,000,000 gallons and shipments from north Louisiana and Arkansas plants practically equalled production. Shipments from the whole area were over 4,000,000 gallons greater than for the week ended March 6.

At the rate of shipments maintained during the past week stocks of gasoline at 118 plants represented 26 days' supply. Kerosene stocks represented 25 days' supply and stocks of gas and fuel oil represented 21 days' supply.

The small table 3 covering shipments and production of gasoline for four weeks ended March 13, shows that during the 28 days, gasoline shipments represented 90.7 per cent of production and stocks increased 10,223,693 gallons. Kerosene shipments were 88.1 per cent of production and stocks increased 3,282,166 gallons.

Summary for Last Four Weeks

Production and shipments, all reporting refineries for four weeks ended March 13. Change in stocks figured from Feb. 13.

Gasoline	Gallons
Production	110,022,575
Shipments	99,798,882
Net change in stocks	10,223,693
Ratio sales to production	90.7%
Kerosene	**Gallons**
Production	27,474,522
Shipments	24,192,356
Net change in stocks	3,282,166
Ratio sales to production	88.1%
Gas and Fuel Oils	**Gallons**
Production	150,929,571
Shipments	147,566,447
Net change in stocks	3,363,124
Ratio sales to production	97.8%

Mid-Continent Refinery Operations Week Ended Mar. 13 (*By Special Telegraph Service*)

	Kansas	%Change Previous Week	Oklahoma	%Change Previous Week	No. & Cent. Texas	%Change Previous Week	No. La.-Ark.	%Change Previous Week	Total	%Change Previous Week	Totals Week ended Feb. 13
No. of Plants	21		45		38		14		118		120
Da. Still Cap. (bbl.)	95,700		154,400		133,300		50,900		434,300		439,300
Da. Av. Crude Run	56,790		88,308		78,587		37,413		261,098		258,851
Da. Av. other Oils	12,193		10,017		9,331		5,714		37,255		40,226
Da. Av. Total to Stills	68,983	+ 8.8	98,325	+ 5.5	87,918	+ 4.3	43,127	+ 4.8	298,353	+ 5.8	299,077
GASOLINE—Gallons											
Stocks March 6	16,860,558		36,232,370		13,686,929		5,737,512		72,517,369		71,304,135
Prod. 3-6 to 3-13	7,312,602	+13.0	10,324,390	+ 2.4	8,283,785	+ 3.2	1,873,120	—10.7	27,793,897	+ 4.2	30,215,663
Ship. 3-6 to 3-13	5,916,094	+28.0	6,360,666	—47.2	7,250,314	— 1.8	1,501,204	— 3.7	21,028,278	—17.9	31,541,330
Stocks March 13	18,257,066	+ 8.3	40,196,094	+10.9	14,720,400	+ 7.6	6,109,428	+ 6.5	79,282,988	+ 9.3	69,978,468
Ratio Sales to Prod.	80.9%		61.6%		87.5%		80.1%		75.7%		104.4%
KEROSENE—Gallons											
Stocks March 6	5,000,133		9,468,171		4,989,974		755,494		20,213,772		19,639,050
Prod. 3-6 to 3-13	2,007,968	— 7.5	2,608,942	+16.4	2,094,696	— 5.0	528,378	— 8.3	7,239,984	+ 0.6	6,472,717
Ship. 3-6 to 3-13	1,855,262	+ 9.6	1,771,694	—13.6	2,010,508	— 0.7	344,088	—40.0	5,981,552	— 5.4	7,446,894
Stocks March 13	5,152,839	+ 3.1	10,305,419	+ 8.8	5,074,162	+ 1.7	939,784	+24.4	21,472,204	+ 6.2	18,664,873
Ratio Sales to Prod.	92.4%		67.9%		96.0%		65.1%		82.6%		115.1%
GAS AND FUEL OILS—Gallons											
Stocks March 6	11,666,780		52,458,066		42,800,818		11,870,332		118,795,996		116,574,711
Prod. 3-6 to 3-13	7,018,099	+ 9.7	11,760,669	+ 8.9	12,560,974	+11.2	8,753,368	+ 9.8	40,093,110	+10.0	37,233,048
Ship 3-6 to 3-13	6,950,221	+15.2	13,803,800	+10.2	10,703,842	+ 7.8	8,843,754	+14.9	40,301,617	+11.4	35,726,377
Stocks March 13	11,734,658	+ 0.6	50,414,935	— 3.9	44,657,950	+ 4.3	11,779,946	— 0.8	118,587,489	— 0.2	118,081,382
Ratio Sales to Prod.	99.0%		117.4%		85.2%		101.0%		100.5%		96.0%

Continental Trading Co. Bond Story Causes Fireworks in Teapot Trial

By Lawrence E. Smith
N. P N. STAFF WRITER

CHEYENNE, WYO., March 14

IF, AMONG the several dozen persons who are in this 6000-foot high city attending the Teapot trial, there was any who came looking for excitement, he is still looking. Unless things warm up a bit next week, this writer, for one, is going to relieve the tedium somewhat by spending a little of each day in municipal court where the human emotions have broader play.

The continued readings of depositions might be relieved somewhat by an occasional witness who would testify to something other than the routine practice of governmental departments. We should like to see the persons themselves who have the information bearing on this trial. There are a number of witnesses coming and, alas, more depositions. The defendant in the suit is just as bad as the government. I understand the defense has among its literary masterpieces a deposition from Admiral Robison, U. S. N., which reached from Cheyenne to Casper and back with side trips to Orin Junction and Wheatland.

The week has gone something like this: Owen J. Roberts, of counsel for the government, ascends to the witness box and begins reading the questions he asked somebody some months ago and reads the replies to the same. He comes to the place where the attorneys for the defense questioned the same witness, whereupon Mr. Roberts steps out of his character of witness and again becomes an attorney.

Then Martin W. Littleton or George B. Hoover, of the defense, both of whom have good reading voices, becomes the witness and reads the questions the defense asked and the replies to same. Then there is the re-direct and the re-cross examination and these certainly do eat into one's day.

Not Very Exciting

Not that it all isn't important and pertinent to the cause on trial. It simply isn't anything to hold the attention nor does it live up to the advance notices. One visitor remarked a few minutes ago that the most exciting event of the week was his receipt of an invitation to attend services at a local church.

This is a suit in equity. In it the government seeks to recover contractual title to Naval Reserve No. 3, or Teapot Dome, consisting of about 9300 acres, leased to the Mammoth Oil Co on April 7, 1922. The property is now being operated under receivership. Albert E. Watts, vice-president of the Sinclair Consolidated Oil Corp., and Lieut. Commander H. A. Stuart, U. S. N., being the receivers. No development work is being done now and the moneys from the sale of the oil are being impounded by the federal court here.

The suit has its parallel in the suit tried last fall in Los Angeles against the Pan-American interests, which obtained leases on naval reserve in California about the time that the Mammoth Oil Co., headed by Harry F. Sinclair, did on Teapot. Albert B. Fall, then secretary of the interior, was prominently concerned in granting both leases. The California suit has not yet been decided by Judge McCormick, who heard the case, but decision is expected soon.

Owen J. Roberts, who is Republican in political faith and an attorney of Philadelphia, and Atlee W. Pomerene, former Democratic senator from Ohio and an attorney of Cleveland, are handling the case, assisted here by District Attorney Walton and his assistants. The judge is T. Blake Kennedy, appointed to this bench about four years ago.

Fraud Is Charged

In this case it is set up that there was fraud practiced in procuring this lease, or in ham an' egg English, that Sinclair and the Mammoth Oil Co. slipped some money to Fall. As the case is turning at this writing, this is the big gun of the government and attorneys on both sides are busy reading to the judge the authorities on why the testimony to establish fraud should and should not be admitted.

Mr. Pomerene, in opening the case, said the government would also show that the deal was unlawful because the contract was let without competition and without advertising. He said furthermore that the part of the deal relating to exchange of royalty oil from Teapot for naval steel tankage to be erected by the Sinclair interests was also illegal because it also was a non-competitive deal. The same was said of the sale of the royalty oil and of the provision

Fall's Kin Testifies That He Carried The Bonds

(By Fast Wire Service)

CHEYNNE, March 17.—Judge Kennedy this morning ruled that M. T. Everhart, of Pueblo, Col., son-in-law of Albert B. Fall, must reply to questions asked by the government counsel and that the court will judge as to whether the matter in question is incriminating. Everhart yesterday declined to answer the questions put by government counsel.

Everhart then took the stand after a conference with his attorneys and read a statement that he did carry the Liberty bonds and that further information along this line would involve him. The court held in effect that the explanation was reasonable and the witness was excused.

The government's case is obviously endangered by the failure to get from this witness the direct connection between Fall and the Continental Trading Co., as attorney Roberts admitted in court yesterday, so far as Sinclair is concerned, the only connection he can show between him and the Continental Trading Co. is circumstantial.

The government sought to prove that Everhart was the man who carried Liberty bonds bought by the Continental Trading Co., with profits of the Mexia oil deal to banks in the southwest, where they were deposited to the account of Fall.

After the first perfunctory questions had been asked yesterday Owen J. Roberts, government counsel, inquired whether the witness remembered taking the bonds. Instantly the answer, obviously the result of careful coaching, was given, "I respectfully decline to answer on the ground that it might incriminate me." Then H. A. Wise, attorney for Fall, and Roberts engaged in an authority-citing contest which lasted until adjournment.

Judge Kennedy ruled yesterday the government had started in at the wrong end to develop this evidence concerning fraud. He sustained the objection of the defense that the government had not shown any connection between Sinclair's part in the Continental deal and the receipt of the bonds by Fall and said that, in starting with the receipt of these bonds, the government had begun at the wrong end. Whereupon the government turned around and began with the origin of the Continental, and was working toward the final destination of the bonds when Everhart refused to answer the questions. It had been shown by New York bankers and brokers that the Continental had bought bonds.

Everhart refused also to tell why he thought he might be incriminated. He is not under indictment and had, he said, no connection with the leasing of Teapot Dome.

Three siege guns of the defense. Left, John W. Lacey of Cheyenne, leader of Wyoming bar, who is conducting the cross-examinations for defense. Center, Martin W. Littleton, New York, chief of defense counsel. Right, George B. Hoover, Washington, Sinclair's personal attorney

whereby Sinclair would supply lubricants and other products to the navy.

The government used up Monday, Tuesday and Wednesday with depositions and witnesses seeking to establish that secrecy was practiced in letting ot the lease; that no one else really had a chance to make a contract on it. Then on Thursday, with the introduction of certain bank officials, the government started off to prove that some money was passed to Fall.

The defense up to this juncture has had little to say. It reserved opening statement until the government should have rested its case. A few objections were put from time to time, most of them having rather a perfunctory sound. They did go after K. C. Heald, geologist, rather hard, but that didn't last long. All told, though, they spent most of their vocal effort in helping to read the depositions.

But when that financial phase was reached, how they did come! Instantly, John W. Lacey, dean of the Wyoming bar, was on his feet and he had citations reaching back to 1815 to prove that this deposit of Liberty Bonds in El Paso to the credit of Fall was no part of the present case. One moment Mr. Lacey reminds one of a bloodhound sniffing at the trail and the next of a bulldog which has its hold and doesn't intend to let go.

And to help Mr. Lacey, Martin W. Littleton, rotund and wearing always a smile of the utmost geniality, would get out of his chair. Mr. Littleton is chief

Humphreys Didn't Know Till Long Afterward of Resale

Staff Special

CHEYENNE, WYO., March 14.—On Friday afternoon, March 13, just after counsel for both sides in the Teapot suit had concluded arguments to Judge Kennedy as to the admissability of evidence bearing on the allegations of fraud, the government called to the stand C. S. Thomas, former senator and governor of Colorado, and attorney for A. E. Humphreys.

Mr. Thomas testified that he was summoned to New York City by Col. Humphreys in November, 1921, arriving there on Nov. 15. He went with Col. Humphreys to 42 Broadway and there met Col. R. W. Stewart, J. E. O'Neil, H. F. Sinclair and H. M. Blackmer. The object of the conference was to go over the details of the proposed sale of 30 million barrels of Mexia crude oil, which deal had been outlined to him previously by Col. Humphreys.

There was to be a contract calling for the purchase of this much oil at $1.50 per barrel. They also arranged for a second contract to be confined to half the output of the Humphreys interests and not to exceed 40,000 barrels a day and this to become effective when the 30 million barrels had been delivered. The second contract was for the sale of the oil to the Prairie Oil & Gas Co. and the Sinclair Crude Oil Purchasing Co. and the price was to be the going field price.

Mr. Thomas was rather under the impression at the time that the Standard was the buyer, at least he heard the Standard metioned.

Because Col. Humphreys desired to make a contract which would call for a total of $50,000,000, the figure was changed to 33 333,333 barrels of oil to be sold.

They agreed to meet the next morning at the Vanderbilt Hotel at the rooms of Blackmer. That meeting was held, with the same people and B. G. Dawes, president of the Pure Oil Co. present. It was at this point that the Continental Trading Co. Ltd. first came into the picture. Mr. Thomas believes it was Blackmer who first mentioned it. The statement was made at this time that the Prairie and the Sinclair would guarantee the contract.

The next day, Nov. 17, another meeting was held at the same rooms and this time H. S. Olser was present. Mr. Thomas had not met Osler before. The contract, after some discussion, was signed, Sinclair and O'Neil signing for the two companies as guarantors. Osler took from his pocket a small, silver-plated seal, which he affixed to the contract. Mr. Thomas said he remarked that it was a somewhat unusual proceeding, whereupon Osler said that sometimes it was necessary.

Mr. Thomas said he did not know of the resale of the crude by the Continental to the Prairie and the Sinclair until he read it in a New York newspaper in Paris in September, 1924.

At the conclusion of Mr. Thomas' testimony, Col. Humphreys was called. He was asked whether his name was Col. A. E. Humphreys, jr. and replied, "so called." His statement was that he began negotiations with Blackmer some time prior to Nov. 14 and that a meeting was held on the 14th between himself, Blackmer and F. Julius Fohs in the office of the latter. The only essential difference between the testimony of Mr. Thomas and Col. Humphreys was that the latter said that B. G. Dawes was present on the 15th while Mr. Thomas did not mention him.

Within 24 hours after the contract with the Continental was signed, Col. Humphreys said that the Prairie and the Sinclair had started pipe line construction to Mexia. The second contract, previously mentioned, was signed on Nov. 23 and was signed by O'Neil, Sinclair and Col. Stewart on behalf of the buying companies.

Col. Humphreys said it was not until about a year and a half later that he learned of the resale by the Continental.

of the Sinclair counsel. Then E. H. Chandler of Tulsa, the general counsel for the Sinclair Pipe Line Co. and the Sinclair Crude Oil Purchasing Co., co-defendants in this suit, would be quite emphatic as to the irrelevancy of the testimony insofar as it concerned his companies. And George B. Hoover, of Washington, the personal attorney for Sinclair, would bat up a few flies on the sideline. And whispering and conferring with the aforementioned were Ralph W. Garrett, of Tulsa; G. T. Stanford, of New York; J. H. Holmes, Washington, and R. W. Ragland, of New York.

They look, when in action, quite a lot like the Notre Dame football team. They know their signals and when one man is given the ball, he knows which way to run.

Now this is what brought on all the trouble, which isn't yet settled. The government started out at the tail end of the transaction to show that Fall got about $230,000 in U. S. Liberty Bonds from somewhere. They first proposed to show the deposit of those bonds in the banks to the account of Fall. They were first showing their deposit in El Paso, thence working back through the banks of Carrizozo and Pueblo, thence back through the treasury department, through the Dominion Bank of Canada, New York branch, thence to the Continental Trading Co., Ltd. and H. S. Osler, president of the same, and then to show that these bonds were purchased with profits made on the deal in 1921 when the Humphreys interests sold to the Continental 33 million barrels of Mexia oil, same being, as the story goes, resold on the same day to the Prairie Oil & Gas Co. and the Sinclair Crude Oil Purchasing Co.

Tracing Bonds Backward

As stated, the government started in backward—that isn't said in a critical sense—to trace these bonds from the profits of the Mexia deal to Fall. And then the fun began. The main proposition is that the defense says that the Continental affair is no part of this and that it cannot be established by entries made in books of banks by clerks and identified by officials.

The government sought to develop from the testimony of five men the story of this Continental Trading Co. H. S. Osler, head of the company, which was organized in Canada on the day that the Mexia crude oil sale contract was signed, is a subject of Great Britain. The government some weeks ago got a decision in the supreme court of Ontario calling upon Osler to come into court and answer questions fixed by the attorneys for the government here. He left and was reported to be in Africa before the decision was rendered. An appeal to the appellate branch was taken by his attorneys, and last week that branch sustained the lower court. Osler, government counsel heard this week, is now in London, but before he can be questioned, this trial will be concluded. So much for Osler.

James E. O'Neil, former president of the Prairie Oil & Gas Co., and Henry M. Blacker, former chairman of the board of the Midwest Refining Co., are in France. They are alleged to have been present at the meeting in New York when the sale of Mexia crude oil was made and presumably to know what went with the profits the Continental Trading Co. made, said to have exceeded two million dollars.

The government, through the state department, went into the court of first instance of Paris and brought both into court. Ulric J. Mengert, who is connected with Owen J. Roberts' Philadelphia law firm, was the man sent to Paris with the letters from the federal court in Cheyenne.

LAWRENCE E. SMITH, staff writer for National Petroleum News on production matters, is at Cheyenne watching the course of the trial of the government's suit to annul the Teapot Dome lease entered into with the Mammoth Oil Co.

Mr. Smith has been over the ground covered by the Teapot Dome lease and was the first writer to tell the oil industry what sort of territory it was and to publish the information that production of oil from the lease was likely to be much less than had been generally supposed.

He will pass on to the readers of this paper the developments in the hearing of the suit as they unfold.

Federal Judge T. Blake Kennedy
The one who will decide it.

Made a Water Haul

He went over on one ship and caught the next one back, arriving here with the fruitless results of his trip in time for this trial. He asked the questions, all right, but beyond saying that they didn't know anything about Teapot Dome and that what else they know is their own affair, nothing much happened. George Gordon Battle, who has been for some time the attorney for Blackner also represented O'Neil in Paris. He also went over and came right back and is here.

Mr. Roberts proposes to read the depositions, if you can call them such, of Blackmer and O'Neil in court. Mr. Mengert did ask the two when they expected to return to the United States and they didn't know the answer to that, either. That disposes of them, so far as this suit is concerned.

The other two of the five are Col. R. W. Stewart, chairman of the board of the Standard Oil Co. of Indiana, and Harry F. Sinclair, who is present in Cheyenne.

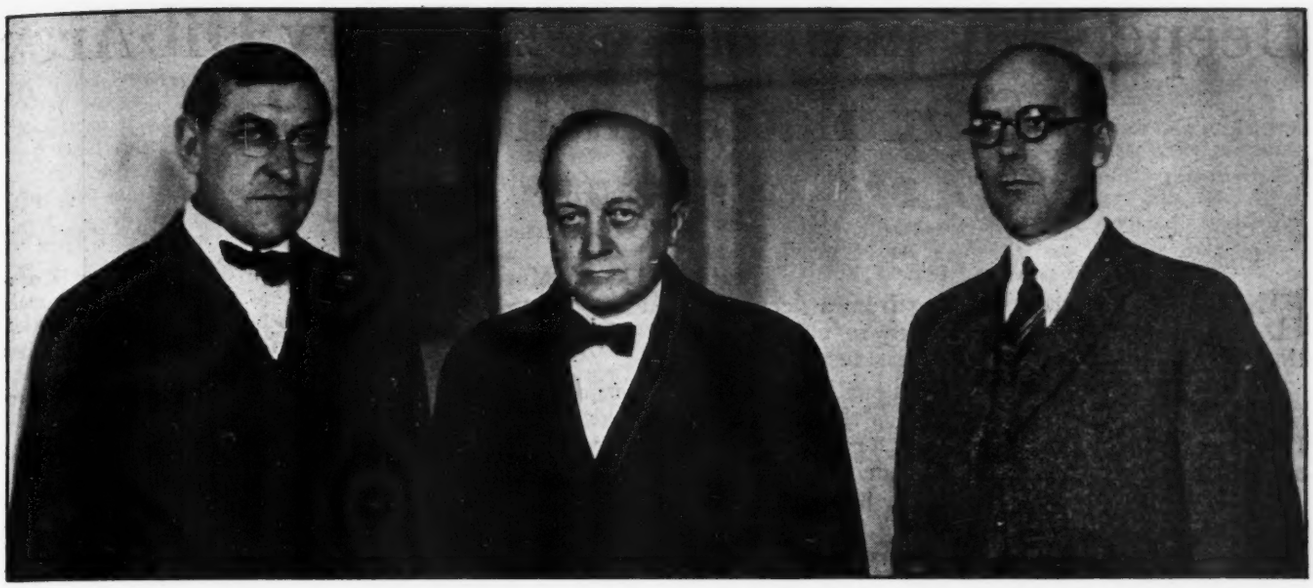
There was quite a lot of newspaper talk about the time the trial opened about Colonel Stewart's absence from Chicago. The mystery grew in intensity with each bulletin filed. The tone of some of them indicated that he was about the same as a fugitive from justice. Then John D. Clark, who is a vice-president of the company and assistant to Colonel Stewart, passed out a short statement to the effect that the colonel has been for some time conducting negotiations looking toward the purchase, with others, of important properties in Mexico and South America.

Why Col. Stewart Is Absent

Now the writer doesn't possess any deep information about the Continental Trading Co. To anyone it looks like a peculiar transaction and no explanation at all has been given of it. But so far as the present litigation is concerned, Colonel Stewart, in all fairness, is entitled to the space to tell what really happened.

Subpoena was issued to serve on him for this trial for the date originally set, which was in early October. Then the attorneys for the government came into court about 10 days before trial date and asked for a continuance to January. By asking for their continuance ahead of time that way, all subpoenas were voided and new ones had to be issued.

Now the second subpoena was not served on Colonel Stewart, but as lots of people know, he was in Chicago in November and December—he attended the American Petroleum Institute meeting in Fort Worth, went to Shreveport from there, and from there, I am reliably informed, went to



These three are principal counsel for government. Left Owen J. Roberts, Philadelphia; Center, Atlee W. Pomerene, Cleveland; right, A. D. Walton, U. S. district attorney for Wyoming

Mexico for the first time on this deal. The same information tells me that he has been in and out of Chicago, back and forth ever since until this recent trip which was of some duration.

Then, going into court ahead of trial date again, the government obtained another continuance until March 9. Again new subpoenas were issued and again service was not had on Colonel Stewart.

Explanation In Marshal's Office

The explanation, or at least a reason for what happened, comes from Mr. Roberts of the government counsel. The marshal's office in Chicago became quite notorious and just the other day the marshal was removed.

So then, Colonel Stewart, having a deal of major proportions on his hands, went about his business. I am told that if the marshal's office had really tried to find him, it would have been simple but that he didn't consider it his duty to call up the marshal from time to time to see whether he was wanted for anything.

Incidentally, we have been wondering here whether there was any significance in Pomerene's omission in his opening statement of the name of Colonel Stewart as one of those present in New York when the Mexia oil was purchased. He mentioned O'Neil, Sinclair and Blackmer.

The first witness for the government on Monday was E. C. Finney, first assistant secretary of the interior under Fall and still holding that position. He said that Fall did not consult with him about the leasing of Teapot. There was a wealth of detail on this, setting up the contention that Fall was acting in a secret manner. He was not present when the contract was signed with the Mammoth and the first he knew about it was on April 13. Fall was that day leaving for his ranch at Three Rivers, N. M., and he told Finney and C. V. Safford, of the department, that the lease had been executed and that it was in his desk. He locked the desk and gave the key to Safford, charging the two of them not to give out any information on it.

The government succeeded in establishing that there was at least irregularity on the part of Fall, so far as the actual lease was concerned. He appears to have sought no legal advice on it and to have taken matters pretty well into his own hands. But the weight of it was that the Geological Survey had no part in it, while the Bureau of Mines did.

The question of outstanding claims on Teapot, which the land office didn't think were worth anything, was pretty well threshed out.

The secrecy with which Fall surrounded the transaction was developed by B. B. Brooks, former governor of Wyoming, president of the Rocky Mountain Oil & Gas Producers' Association, and a prominent figure in the oil industry of Wyoming. Governor Brooks testified directly. The company he represented the Western Exploration Co., would have been glad to bid on the Teapot lease, but no opportunity was given them. He said that his company hardly would have considered bidding on the whole thing but would have been glad to bid on part of it.

Testimony was given by Leslie A. Miller, of Cheyenne, now president of the Aero Oil Co., a marketing company, that he had heard about the 5th or 6th of April, 1922, that Teapot was to be leased. He heard this in Denver, he said, and not from the interior or the navy department. He wired to Senator Kendrick that he and associates would like to make a working contract on part of the reserve up to 640 acres. They had no chance to submit a proposition, he said.

The fact that the Ohio Oil Co., a pioneer operator in this territory, was not asked to submit any proposition was brought out in the examination of John McFadyen, general manager of the company in the Rocky Mountain territory. The company would have been interested if it had had the opportunity to submit a proposition, he said, but on cross examination, said that the Ohio would not have considered making a lease as favorable as the one Sinclair signed.

Depositional testimony of Col. Theodore Roosevelt brought out that it was he who took the executive order transferring administration of the naval reserves from the navy to the interior department and made some suggestions as to change in the original draft which was prepared by Fall. Several naval officers made suggestions for changes, he said, and Denby made an alteration. Roosevelt then took the revised form to Fall, who approved it, then to the president who signed it. Roosevelt favored the transfer of authority because the interior department already had the organization to handle producing properties while the navy would have had to organize such bureaus and had no men skilled in that line of work.

Roosevelt further said that he had no knowledge that Teapot was being leased prior to that act, but that that was not particularly remarkable because he was working day and night on the limitations of armaments treaty and on a fight then in Congress.

Ora Has Chronic Peeve

BIRMINGHAM, ALA., March 14.—The sale of the Wofford Oil Co. of Georgia to the Pure Oil Co. does not affect in any way the Wofford Oil Co. of Delaware which has headquarters here which is owned almost entirely by G. T. Wofford. The Delaware company owned all of the capital stock of the Georgia company. The sale did not include the Wofford plant at Chattanooga, Mr. Wofford said.

Deeper Pay in Smackover Heavy Oil Area Stimulates Rush to Drill

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, March 14

ENOUGH wells are producing from a deeper pay in the heart of the old Smackover heavy oil area to encourage the starting of more than 100 additional South Arkansas test holes.

The effect of new development may be to materially increase Smackover production, inasmuch as the deeper wells yield from 500 to 1200 barrels daily, per well, and a wide scope of territory has been opened for fresh drilling to this horizon.

Earlier wells in the Smackover heavy oil district produced from the Nacatoch sand at about 2100 feet. The deeper producing horizon was found at 2287 feet in the "discovery" well and is penetrated as low as 2405 feet in more recent completions. A total of five of the deep wells have now been completed.

Production at the deeper level is assumed to come from sands in the Marlbrook marl, which underlies the Nacatoch formation in this part of south Arkansas from the top of the Annona chalk. The Marlbrook yields light oil in the division of the Smackover field that is located west of the east line of Range 16 west, which district also gives up light oil from the Nacatoch. The Nacatoch is productive at drilling depths of about 2200 feet in the west side district and the Marlbrook at about 2300 feet.

As of March 1, last, the light oil district at Smackover was producing 32,312 barrels of crude oil daily and the heavy oil division of the field was making 62,350 barrels daily. Present figures are slightly higher, with the prospect that heavy oil production will total 65,000 barrels daily by April 1. Roughly 4000 barrels of the present heavy oil supply comes from deep wells.

Lion Heads the Way

After the Lion Oil & Refining Co. had failed to make a well in the regular 2100-foot pay in its No. 5 Graves, 3-16-15, Smackover heavy oil district, late in November, it drilled on down to 2287 feet. The well then flowed about 2000 barrels of fluid, roughly 50 per cent oil, before going "dead." It has been possible since that time to work over the well and put it on production regularly, although considerable quantities of water come out with the oil.

No. 5 Graves thus became the deep pay "discovery" well of the Smackover heavy oil district, although a second producing zone had been previously known in the light oil area. More recently, the Lion Oil & Refining Co., has completed its No. 6 Graves, also in 3-16-15, for production. Both are now rated as fair wells, although making lots of hot salt water along with the oil.

Two and a half miles west and about a half mile south of the Lion's wells, Broderick & Calvert recently completed No. 2 Bradford, in the northwestern part of 8-16-15, at total depth of 2405 feet. The Broderick & Calvert well is now making 600 barrels daily of 21 gravity oil, one half of one per cent sediment and no water; 4½ inch casing was set at 2380 feet without liner.

In 4-16-15, more than a mile northwest of the Lion's wells, George and Jones, drilling No. 3 Umstead to 2340 feet, where 8-inch was set, got a well making 1200 barrels daily. This well blew in without bailing or washing and is making clean oil no water or b. s. It was completed at total depth of 2352 feet in nine feet of sand.

Hickman et al completed their No. 6 Graves, in the "discovery" section, northeast of the Lion's wells, in eight feet of sand at 2368 feet, flowing 1000 barrels daily by heads. The oil shows half of one per cent sediment, but no water. It also tests 21 gravity oil.

The wells in 3-16-15 are located at points between the 1820 and 1830 foot subsea contours of the Nactoch pay, as mapped in an engineering report on Smackover oil and gas development by Messrs. P. S. Haury and R. B. Kelly, which was published in 1924 by the United States Bureau of Mines in cooperation with the El Dorado Chamber of Commerce.

BULLETIN

HOUSTON, March 16—Smackover deep pay in the heavy oil district yielded its sixth and largest well, March 15, when Sunny Jim Oil Co. completed No. 3 Felnnikin in 9-16-15 for initial production estimated at 5000 barrels daily. The well came in making clean oil without B. S. or water. It extends the deep pay southward toward Northplet. The well was drilled in from 2475 feet, where 6 5-8-inch casing was set. Deep pay production now exceeds 10,000 barrels daily from six wells.

Whether the deeper horizon is conformable with the Nacatoch contours will have to be shown by future development, but if it is conformable then virtually the whole of the Smackover heavy oil district will come in for redrilling eventually.

The Lion's wells are located on the 1830 foot subsea contour as mapped at the Nacatoch level; the George & Jones production is at a point where Nacatoch oil comes from approximately 1820 feet below sea level; and the Broderick & Calvert well is approximately on the 1810-foot subsea contour of the Nacatoch.

Nacatoch levels herein referred to are not necessarily conformable with the underlying Marlbrook sand contours, but they are of some importance in speculating about the potential scope of the lower producing horizon. Production from the Nacatoch covers a scope of more than 7500 acres in the east side heavy oil field. Already there are deep pay wells two and a half miles apart from northeast to southwest in the district.

Gas Horizon Previously

Sands at the base of the Marlbrook had been previously the source of heavy gas production in 31-15S-15W, 6 and 7-16S-15W, and 1-16S-16W, but were never productive of oil at Smackover until the drilling in of the Lion's deep pay "discovery."

As shown by the engineering investigation these sands lie between 315 and 341 feet below the top of the Nacatoch sand on the north flank of the heavy oil field where they produce gas. On the west flank of this East Smackover structure they were found between depths of 330 and 365 feet below the top of the Nacatoch, producing from a sand formation 35 to 50 feet thick.

The foregoing levels contrast with conditions in the West Smackover (light oil) area, where the second or Marlbrook zone is known as the Meekin sand. This sand in which about 250 producing oil wells were completed, lies about 365 feet below the top of the Nacatoch.

Third Zone Also Exists

A third zone consisting of two sands identified as belonging to the Blossom series is found below the Marlbrook on the West Smackover structure and is known to underlie the latter formation in the eastern heavy oil division of the general district.

The first sand of the Blossom series is found at 627 to 649 feet below the top of the Nacatoch on the west side

structure and the second sand at 715 to 742 feet below the top of the Nacatoch. Adjusted to the sub-surface position of the Nacatoch on the East side structure, similar intervals probaby intervene from the top of the first zone to the underlying horizons. The Blossom has never been adequately tested on the east side structure; in the light oil area a few wells at this horizon have made as high as 60 to 80 barrels daily.

The engineering report of the Bureau of Mines took cognizance of still deeper possibilities than the Marlbrook because of lower pay horizons in North Louisiana fields where the Blossom and Eagle Ford formations produce.

Homer, La., production is from the Nacatoch at the 1400-1600 foot level and the Blossom at 2100 feet. Haynesville produces from the Blossom at about 2800 feet. The Eagle Ford producing level popularly called the Woodbine sand in North Louisiana, is at the 2300 foot level in the old Caddo district. El Dorado, Ark., produces mainly from the Nacatoch at about 2100-2220 feet, although some oil comes from the Blossom.

Still Further Possibilities

"Operators should not assume that all sands capable of producing oil have been tested in the Smackover field," said Messrs. Haury and Kelly, who added that "it should be remembered the sands are variable throughout the district and in some parts of the field considerable bodies of sands occur at other horizons than those that are proven to be oil bearing."

With regard to possible areal extension of the field, which are still possible, they said:

"It is probable that the axis of a structural high extends from the vicinity of Crawford & Sebastian No. 1 Giller, 14-16S-15W, east southeast to or beyond a point south of the E. M. Brown No. 1 Goodwin, 16-16S-14W, near the town of Calion.

"Other small domes similar to the one in 3-16 S-15W, may be found that will extend the production from the Nacatoch sand to the east. The land lying between Smackover Creek and the Ouachita river, east of the proved Smackover field, is suggested as a possible extension. There may be such a dome between the present north limit of the east field and the Ouachita river, in line with the structural nose that trends northeast into 19-15S-15W."

Correction

In the advertisement of the Ehrlich Safe & Lock Co., on Page 69 of the March 11th issue of National Petroleum News the price of single unit safes was carried at $46.50. This was in error the price in reality being $42.50.

Major Companies Active in Taking Acreage Near Artesia Field

DENVER, March 14

THE Artesia field of New Mexico, so-called because of its proximity to the town of that name, is attracting considerable attention just now among oil operators of both the Rocky Mountain and the Mid-Continent fields. Located in Eddy county, near Roswell, eastern part of the state, it is different in all features from the development in the northwestern part of the state where small domes in the San Juan Basin have been found productive of oil running as high as 64 degrees A. P. I.

A well known Rocky Mountain field operator who has just returned from a trip to the Artesia field has given the writer his field notes which pretty thoroughly summarize the situation in Eddy county.

The field is 18 miles southeast of Artesia and 20 miles northeast of Carlsbad. The Sante Fe railroad is the only one serving this area. The field is reached from Denver by going on the Colorado Southern railway to Amarillo, Tex., then by Sante Fe to Clovis, thence to Artesia. By automobile from Denver the distance is 635 miles, by way of Pueblo, Raton, Las Vegas and Roswell.

The topography is that of a rolling plain. The field is mainly situated in Sec. 28, 29 and 32, Tp. 18S., R. 28E. The field is east of the Pecos River.

First wells were drilled by the Illinois Producers Co., west of the present production. Two wells were drilled, two or more years ago, which showed some gas and oil. The company then moved 3½ miles east where at about 2000 feet depth the first good showing of oil was had. The company has drilled six additional wells. One of them came in for a flush production of 500 barrels, maintaining that rate for six days, and gradually declining until the output for the past month has been from 150 to 160 barrels a day. Just this past week the Illinois Producers brought in wells No. 6 and 8. No. 6, in the northwest of the northwest of Sec. 38 after shot was estimated at 30 barrels and No. 8, located in the southeast of the southeast of Sec. 29, was shot into estimated production of 75 barrels. Both are in Tp. 18, R. 28.

About 4½ miles east of the principal production, Burgess and Goodale, locally known as the California Co., have brought in a well rated at 15 to 25 barrels. Production was found about 500 feet shallower than the usual run of wells in the field.

One gas well was brought in, this by the Illinois Producers, and this gas and oil is used for fuel. The charge for gas has been $20 a day and the oil for fuel has been $1.75 to $2.05 per barrel.

Wells are started in a white gyp and gravel formation and at 175 to 200 feet water is found which thus far has been adequate for drilling purposes. Water supply is likely to be the chief problem if a drilling campaign of considerable proportion is started. The Danziger interests have a good water well—the best so far found—and water storage for 750 barrels is being put in.

Up to March 4, the several companies in the field had completed 13 wells of which the Illinois Producers had six (the two wells Nos. 6 and 8 have been finished since that time), including one gas well; the Twin Lakes Oil Co. had two wells; and the following companies had one each: Pitcher Oil & Gas Co., Roswell Oil Co., Burgess & Goodale, Royal Duke Oil Co. and Rotary Oil Co. There were at that date four wells drilling (two since completed) and 12 new locations had been made.

The 12 producing wells as of March 4 were producing about 750 barrels daily.

Oil is found in a sandy lime formation at 1400 to 2000 feet, the latter being the depth of an Illinois Producers well. About 80 per cent of this formation is eaten up when acid is applied, leaving about 20 per cent of real sand. The dip of the formation is about 70 feet to the mile to the southeast.

Pipe line outlet for the production is now available in two lines. The Gilliland Oil Co. has completed a 3-inch line at Lakewood station to supply the company's small refinery at Roswell and the Rio Grande Oil Co. is putting in a 4-inch line, probably completed now, to Artesia from where the oil will be shipped to the company's plant at El Paso.

As of March 4, oil in storage and tankage in the field was as follows:

	Tanks	Capacity	
Illinois Producers Co.	6	250	full
Picher Oil Co.	4	250	full
Mitchell-Walker	4	250	full
Mitchell-Walker	4	500	full
Mitchell-Walker	2	1600	full

Many of the large companies have representatives at Artesia and acreage is being checkerboarded as far east and southeast as Texas. The Ohio Oil Co. has taken about 60,000 acres and the Standard Oil Co. of California, Midwest Refining Co. and Texas Co. are other large companies which have been active in leasing. The acreage in the field is mostly government land and state leases and a great part of the latter class of acreage has been cut into 40-acre tracts and sold by speculators over the past few years to people outside the state, many of them clerks and stenographers.

Very few standard rigs are in the field and most of the drilling has been done with Star and National machines. Drilling costs are indicated by a well recently drilled by the Illinois Producers. The rig was skidded and the well completed for $4,600.

Fight the Lies in the Georgia Case

THE absolutely unfair, untruthful, yes unlawful, attack on the oil industry by the attorney general of Georgia and the city attorney of Atlanta, lends further support to the argument which this paper has long made, that the oil industry should at times vigorously and without quarter, try its case in the newspapers before the entire public. And in that trial, it should not hesitate, where necessary, to attack the good faith, the honesty of intent and the veracity of its assailants.

In this Georgia proceeding, one would even be justified in attacking the good faith of the court itself for allowing a temporary restraining order without any hearing or investigation of the other side. In all probability the court's order could be openly violated, if need be to prevent the oil company from operating at a loss, or could be set aside by either the officers of the oil company appealing to a higher court or a stockholder attacking the order in another court.

The least this Atlanta court could do and be mindful of the rights of the stockholders as well as of the oil corporations would be to impound any advances until final decision. Courts are supposed to grant such hasty temporary restraining orders only when irreparable injury might result. Obviously no such injury would be done the citizens of the state by an advance of a few cents a gallon in gasoline but irreparable injury might easily be done a business by its inability to get such an advance. This Georgia court has seemingly grossly abused its powers.

The petition of the Georgia officials shows a complete disregard for the truth. Its language and the manner of its filing, clearly discloses an entire lack of even desire to get at the facts. The attorney general and this city attorney therefore class with any one else who would take property without due process of law and who would damage or destroy property, without paying therefor. In plain English they are no better than highwaymen of the road only these officials steal dollars from a corporation and its stockholders and their business reputation while the old fashioned highwayman takes your watch and your purse. The latter are much easier to replace than the former.

In our opinion the oil industry should cease to think of its traducers as people of honor, honesty and good intent though misguided by ignorance. Because its defamers have been elevated to high places in government is no reason why they should be spared. They should be treated as any other dishonest men are treated and in the most direct and effective manner.

The best way for the oil industry to get its story over to the public is to run down these crooks of economic and political thought, just as the police run down the theives and burglars and highwaymen of more ordinary walks of life. The police don't undertake to keep watch on all citizens but aim to seek out and punish the bad. The former method would work if there were enough police and enough time was taken. The oil industry can and probably should to an extent, tell a general story to the public but the more effective way is to smash in the face every one of these public officials—and any others—the minute they step forth and undertake to steal from an oil company that to which it is justly entitled and to which they are not entitled.

The police know that if they clean out a nest of crooks they will stop a lot of crime. The oil industry should realize by this time that if it cleans up these thieves of its good name whenever and wherever they appear, right on the minute of that appearance, the rest of the political bunk artists will quit too.

Had the oil industry pounded away in paid space to the public, on the various false and misleading statements of the Federal Trade Commission in the past, had it prosecuted more vigorously than it did its fight on LaFollette and his dishonest report, even to the extent of carrying the fight onto the floor of the U. S. Senate with the demand that such men—LaFollette, Brookhart et al—be censured for their abuse of senatorial privilege; if the oil industry had sailed into McMaster and told his constituents in South Dakota wherein he defamed the industry; had it attacked brother Charley Bryan in Nebraska, and the city officials of Lincoln and Omaha—the chances are that long before this, that crowd of political cowards would have decided to leave the oil industry alone.

Any man who will resort to the unfair, dishonest and unlawful tactics that these men do are cowards at heart. The quickest way to dispose of a coward is to stand and fight him. Dignified silence only heartens this coward. One man of courage and with a good gun, if he gets on the job at the start and shows entire willingness, even eagerness to really fight, can stop most any mob that is organized against right and law. These political bunk artists have been allowed by the oil industry to get organized into a mob and the further they run the more courage they have.

Judging from the information so far at hand, it would appear that this Georgia situation was an elegant opportunity for the individual oil companies concerned at once taking their case into the newspapers, in paid space and telling the public what the facts are and how far from the facts the authorities are in their statements. If the charges of conspiracy among the oil companies in Georgia are not true, as we believe, the quicker the fight could be taken into the newspapers and given to the whole public the better. And by fight we don't mean a single statement or two, but a continual hammering day after day on the facts and on the misleading and false statements of the public officials.

Each fight should be made by the companies directly interested. Each should sign the advertisements. Perhaps some individual or two from a central organization could engineer it but we doubt even that. The oil companies know of the existence of their several associations and the American Petroleum Institute and oil papers. They know these organizations have shelves upon shelves of facts which are available to every oil man. It is a comparatively simple matter to get these facts and state them as they apply to the individual oil company's situation. It may cost that individual company a little time and a little money but it will be far cheaper to spend it now than to let present conditions get worse.

We are not opposed to the industry's having a Committee on Public Relations. Such a committee, now being financed, will be able to help the industry considerably, but we are more firmly of the opinion than ever that the best way is to put up a fight in each specific case as it arises. And after a few such battles the industry will find that there isn't any war against it as it now seems to think.—W. C. P.

To Discuss Operating Problems at Natural Gasoline Convention

Staff Special

TULSA, March 16

FOLLOWING its long established policy, the Association of Natural Gasoline Manufacturers will devote its attention largely to manufacturing problems at its annual convention to be held at Tulsa on April 22 and 23. Only one or two general addresses are included with the technical discussions on the program.

The natural gasoline manufacturers will be the first group of oil men to hold a convention in Tulsa's new large hotel. The Mayo hotel of 600 rooms, which has been in course of construction for the past two years, is now open for business although a few of the rooms have not been placed in service as yet.

In the past Tulsa has not been able to offer satisfactory accomodations for banquets and convention meetings. The new Mayo, however, has provided commodious banquet, dance and assembly rooms at the top of the 18-story structure. All of the convention sessions and the banquet will be held at the hotel.

F. L. Chase, operating manager of the Lone Star Gas Co., Dallas, and vice president of the association, will deliver the address of welcome at the initial session on the morning of April 22. He will be followed by D. E. Buchanan, vice president of the Chestnut & Smith Corp., who will deliver the president's annual address. Mr. Buchanan is the second president of the association since its organization and will complete his second term at the present convention.

Fire prevention in the natural gasoline industry is to be discussed by H. L. Shoemaker, assistant chief engineer of the Standard Oil Co. of New Jersey, closing the morning session.

A. F. Maxon of the Sun Oil Co., is to read a paper at the afternoon session on "Absorption Oil." This will be followed by a general discussion under the leadership of R. R. Dean, assistant superintendent of the Waite Phillips Co.

Special interest will attach to the paper to be presented on "Treating" by W. G. Hiatt, research engineer for the Phillips Petroleum Co. Since its recent explosion resulting from treating, the company engineers have made an exhaustive study of explosive mixtures of chlorine and gasoline and will have a complete report to make at the convention. R. M. Coyle, assistant superintendent of the Chestnut & Smith Corp. at Ranger, will lead the discussion on treating problems after the paper is presented.

The second day's program will begin with the annual business meeting at which the reports of the secretary and treasurer will be read and officers elected for next year. Kenyon L. Reynolds, assistant general manager of the Pacific Gasoline Co., will close the morning program with a discussion of the "California Outlook."

Water supply for natural gasoline plants and the treatment of various waters is always an important subject to manufacturers in the Mid-Continent. That subject will be discussed by Emby Kaye, general superintendent of the gasoline department of the Skelly Oil Co. S. C. Carney, superintendent of the gasoline department of the Roxana Petroleum Corp., will lead the discussion of water problems following the paper by Mr. Kaye.

L. F. Bayer who was recently made general manager and vice president of the Tidal Refining Co. is to read a paper on "Residue Gas." It is probable also that a paper will be read on plant lubrication by some lubricating engineer yet to be selected. G. M. Davidson, general superintendent of operation and construction for the Empire Gasoline Co. will lead the discussion on lubricating problems at the close of the formal paper. The convention will close with a banquet.

For Geologists Busy Days at Annual Meeting

Staff Special

TULSA, March 13.—The annual meeting of the American Association of Petroleum Geologists, to be held at the Hotel Lassen, Wichita, Kan., March 26, 27 and 28 will get under way promptly at 9 o'clock on the morning of the first day, Thursday. At this initial gathering, the visiting geologists will hear an address of welcome by the mayor of Wichita, with appropriate responses. After this ceremony, the first session of the association will convene at 11 o'clock to elect officers for 1925-1926.

The technical sessions will begin Thursday afternoon. At the Thursday night session, the members will be addressed by Dr. John M. Clark, state geologist of New York, who will be in Wichita as a guest of the association. Dr. Clark is rated as a splendid speaker and stands high in the scientific world, being a member of many learned and technical societies in the United States and foreign countries.

Friday will be given over altogether to technical sessions during the morning and afternoon, but that night the "rockhounds" will be allowed to relax somewhat by attending the association's annual banquet. While the menu has not been announced, the program says the dinner will be served "with stunts," which sounds appetizing enough. For Saturday it has been planned for the visiting geologists to make a trip over the Eldorado field, and to take luncheon at Eldorado, but the list of papers to be read at the technical sessions is so long that an effort is being made to put this trip off until Sunday, in order that all the papers listed in the program may be delivered.

Preparations for the meeting are being made by the Kansas Geological society, which is working through a series of committees to handle each department of convention activities. Chairmen of these committees are: Arrangements, William L. Ainsworth; Hotels, C. R. Thomas; Reception, J. H. Cline; Publicity, Marvin Lee; Banquet, Wesley Gish; Field trips, F. G. Hall; Finance, Charles Coats; Entertainment, Amil Anderson. For the association, the chairman of the general business committee is Alexander Deussen, of Houston.

A total of 85 papers on various fields and structures will be read.

Autumn N.P.M.A. Meeting to Be in Louisville

Staff Special

CHICAGO, March 13.—National Petroleum Marketers Association has selected Louisville, Ky., as the convention city for the 1925 annual meeting. Exhibition hall and quarters have been reserved at the Brown Hotel for Nov. 10, 11 and 12. Announcement to this effect was made this week by L. V. Nicholas, president of the organization, having received the hearty approbation of the board of directors. Eva Arnstein, secretary of the association, left Chicago for Louisville March 6 to take care of arrangements locally.

This autumn convention and election probably will be the most advertised and boosted celebration of its kind ever held. Publicity on the meeting will start simultaneously with the Industrial Conference which opens in the Congress Hotel in Chicago on April 7 and lasts three days. Mr. Nicholas assures his directors that the Brown Hotel offers ideal facilities for a convention. All members of the N. P. M. A. who attended the last annual meeting in Cleveland and the previous convention in St. Louis will recall that Louisville has been a bidder for the gathering for three years.

Frederick W. Young Dies

PITTSBURGH, March 16.—Frederick W. Young, at one time secretary-treasurer of the United Refining Co., and assistant secretary-treasurer of the Elk Refining Co., died at his home in Northside, a suburb of Pittsburgh, on March 12. He was prominent in Masonic societies. He left his widow, one daughter and three sons.

Exhibition Spaces Are All Sold for Industrial Conference

Staff Special

CHICAGO, March 13

MEMBERS of the National Petroleum Marketers Association have been called upon to express themselves in regard to the type of program they want at the Industrial Conference in Chicago on April 7, 8 and 9 at the Congress Hotel. L. V. Nicholas, president of the organization, has asked all members to suggest whether they want a round-table discussion of their problems and their current industrial needs, or a series of addresses.

The inquiry went out in the association's confidential bulletin last week and only a few answers have been received at the time of this writing. N. P. M. A. conventions always have been featured by a certain amount of round-table discussion and there is no intention on the part of the officials to dispense entirely with the "fire works" that makes the conventions spicy and interesting. However, if the membership feels like listening to some good sensible oratory Mr. Nicholas assures them he will supply it for them. Here are some of the topics up for discussion:

(a) Full discussion and report of the Advertising Program in which the Independendent Oil Men of America is about to achieve national scope in magazine advertising.

(b) Full discussion and report of the collective buying program which is already operating profitably and satisfactorily but in a much more limited way than is hoped for it.

(c) Full discussion of gasoline taxation for road purposes with hope of determining whether the N. P. M. A. is actually for or against road tax on motor fuel.

(d) Full discussion and if possible a decision on the measure of support an Independent jobber can afford to give refiners who operate service stations.

(e) Giving away pumps and tanks and other methods of offering trade inducements to customers.

(f) Treatment the political demagogue is entitled to, at the hands of the oil industry, whether he shall be answered and exposed.

Much Interest Manifested

Just one week after the announcement of the spring Industrial conference in Chicago, Eva Arnstein, secretary of the association, announced that 40 exhibit booths had been sold to 36 exhibitors and that the hall was full. There was considerable complaint however, on the part of exhibitors who were accustomed to exhibit and were unable to get space, so the secretary opened five more spaces and disposed of four of them during the following 24 hours. Exhibitors for the Conference at the Congress Hotel are as follows.

Name and Address	Booth
Amco Sales Corp., Chicago, Ill.	18
American Oil Pump & Tank Co., Cincinnati, O.	38
Au-to Compressor Co., Wilmington, O.	36
Bennett Pumps Corp., Muskegon, Mich.	9 & 10
Bowser, S. F. & Co., Inc., Fort Wayne, Ind.	2
Brunner Manufacturing Co., Utica, N. Y.	6
Curtis Pneumatic Machinery Co., St. Louis, Mo.	27
Dawes Eelectric Sign & Mfg. Co., Pittsburgh, Pa.	4
Dayton Pump & Mfg. Co., Dayton, O.	34
Doty, J. G., Pump Co., St. Louis, Mo.	E
Economy Engineering Co., Chicago, Ill.	29
Ehrlich Safe & Lock Co., Chicago, Ill.	28
Gibb Petroleum Corp., Lima, O.	12
Gilbert & Barker Mfg. Co., Springfield, Mass.	23
Globe Manufacturing Co., Battle Creek, Mich.	8
Graver Corp., East Chicago, Ind.	11
Guarantee Liquid Measure Co., Rochester, Pa	14 & 15
Heil Co., The, Milwaukee, Wis.	3
Leader Iron Works Decatur, Ill.	19
Marvel Equipment Co., Cleveland, O.	26
McDonald A. Y., Manufacturing Co., Dubuque, Ia.	33
McSavaney Company, Springfield, O.	7
Metal Hose & Tubing Co., Brooklyn, N. Y.	21
Midland Specialties Co., Chicago, Ill.	20
Milwaukee Tank Works, Milwaukee, Wis.	24
National Petroleum News Cleveland, O.	22
National Recording Pump Co., Dayton, O..	25
Pressed Steel Tank Co., Milwaukee, Wis.	35
Progress Manufacturing Co., Arthur, Ill.	30
Quincy Compressor Co., Quincy, Ill.	5
Radiant Oil Co., Inc., Lima, O.	39
Richardson-Phonix Co., Milwaukee, Wis.	1
Save-Gas Sales Pump Corp., Chicago Ill.	D
Shotwell Pump & Tank Co., Boston, Mass.	37
Tokheim Oil Tank & Pump Co., Fort Wayne, Ind.	A
U. S. Air Compressor Co., Cleveland, O.	31
U. S. Pump Corporation, Cincinnati, O.	B
Viking Pump Co., Cedar Falls, Ia.	32
Wayne Tank & Pump Co., Fort Wayne, Ind.	17
Wisconsin Pump & Mfg. Co., Madison, Wis.	16

Minnesota Jobbers to Meet

MINNEAPOLIS, March 13.—The annual meeting of the Minnesota Petroleum Association will be held at the West Hotel, Minneapolis, on April 22 and 23, according to an announcement by Paul E. Hadlick, secretary.

An equipment exhibit will be one of the features. A question box will be placed on the platform in which jobbers may deposit any questions they desire to have discussed during the meeting. All those attending will have a good opportunity of reviewing the legislation that will be passed by the Minnesota legislature which adjourns a day or so prior to the convention. It is expected that the legislature will pass a 2-cent gasoline tax, and if such a tax is passed, there will be some expert at the meeting to explain the new law, Mr. Hadlick says.

Many jobbers are expected from Wisconsin, Iowa and the Dakotas, as in the past, and plans are being perfected for their entertainment.

New England Jobbers Meet

BOSTON, March 14.—A meeting of the Independent Oil Men's Association of New England was held on March 11 at the Chamber of Commerce bldg., Boston, at which 65 members were present and 12 new members were admitted to the association, according to J. C. Richdale, Jr., publicity manager.

Prof. Augustus Gill of the Massachusetts Institute of Technology was the speaker, and he had chosen as his subject "Motor Dopes." He condemned all dopes as being useless with the exception of tetra ethyl-lead, Mr. Richdale reports.

The next meeting of the association wil be held at Worcester, Mass. on April 8.

Geologists Hold State Meeting

WICHITA, KAN.—The Wichita Geological Society took enough time off from its job of getting ready for the annual meeting of the A. A. P. G. to hold its regular meeting March 14. C. R. Thomas wes the principal speaker, his subject being "Origin of Faulting in Western Kansas." James H. Gardner of Tulsa, president of the A. A. P. G. was in Wichita on business connected with the annual meeting and was a guest of the local society.

Gasoline Plants Closed Down

TULSA.—The gasoline plants of Sapulpa Refining Co. (Mutual) and Cloco Gasoline Co. have been shut down and dismantled, and the gas taken by Sinclair Oil & Gas Co. at their Shamrock plant. Gilliland Oil Co. has shut down its Drumright plant, and the gas is being taken by Sinclair Oil & Gas Co. at its Drumright plant.

Lytton Springs Well Producing From Volcanic Tuft

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, March 12

HISTORY repeats itself occasionally with regard to the things that should not be but sometimes are. This is what has happened in the Lytton Springs area, northeast of Luling, near the Caldwell-Bastrop county boundary.

The Lytton Springs pool, which came in over the week-end with a well producing 125 barrels daily, is giving up its oil from a volcanic tuft similar to that found in the old Thrall field of Williamson county, almost due north of the present find.

First reports credited the "discovery" well of Storey & Lefevre, on the Brewer farm, with producing from 31 feet of sand found in the Taylor marl or near its contact with the overlying Navarro formation, both of upper Cretaceous age. Now it appears that oil has migrated into this part of the Cretaceous stratigraphic section to a deposit of volcanic ash, or serpentine, found in association with an igneous plug similar to that previously productive at Thrall.

The significance of production from decomposed lava or serpentine is merely that this forms a porous reservoir for migratory oil both in the Lytton Springs and at Thrall. In this respect it serves the same purpose at the Taylor marl level as would a bed of sand.

The Thrall field, although it yielded several wells in 1914 that had initial production of 1000 barrels daily, or more, gave up its oil quickly; and the pool is no longer of economic importance. Thrall is the only earlier example of this type of condition known in this country, although a little production had previously come from similar formations in the Furbero shallow oil section of Mexico, beyond the area of South Fields development in the Tampico-Tuxpam district.

East Texas Fault Zone

The Woodbine sand belt of the Balcones fault zone was eliminated from any current threat of important new production as a result of the probable failure of the Marland Oil Co. of Texas test near Quinlan, Hunt county, following close on the heels of the recent discouragement at Bazette, in northeastern Navarro county.

Marland's test, which is located 1200 feet from the west line and 800 feet from the north line of a 377-acre tract in the Hamilton survey, tested dry sand at 3080 feet when cored. It had previously tested dry at 2989 feet, at which level it was considered too deep for the hitherto prospective oil pay. This test had topped the Nacatoch formation at 1408 feet and a sand considered to be the Woodbine at 2800 feet.

In the Bazette area, the Atlantic Oil Producing Co. and the Humphreys-Boyd Oil Co. are reported planning a joint test on the Walker 50 acres, southwest of the Walthall (Stevenson) and Absher failures, which last week dashed hopes of currently bringing in a field northeast of Powell.

The Humphreys-Boyd test on the Walthall was previously reported a failure at 3055-3058½ feet, but it was later drilled to 3082 feet before shutting down. The Penn et al Absher test had made 20 million cubic feet of gas, and salt water, at 3080-3086 feet.

Sub-surface data developed in the drilling of the half dozen failures near Bazette serve correlation purposes for the location of additional tests and it is believed that a field similar to that at Richland may be brought in later. Richland, which is located between Wortham and Powell, had a single day peak production of 50,000 barrels in 1924 and a daily average high mark for a week of about 26,000 barrels.

Southwest of the old Mexia development, near Groesbeck, the Pure Oil Co. is rigging up cable tools to make a deeper try for production in its No. 1 Webster test, about 4 miles west of the town of Groesbeck. This test had the top of the Woodbine sand at 2970 feet and was drilled to 3073 feet without getting oil.

Wortham production, March 10, was 76,851 barrels from 286 producing wells, a per well per day average of 265 barrels plus.

North Texas Sand Area

Humble Oil & Refining Co. is now able to supply 14,000 barrels of water daily for drilling operations in Archer county, which is the most active spot in the Greater Wichita Falls district. Shallow production comes from the Cisco sand level at 1000 to 1200 feet in different parts of the district, where many individually small pools are undergoing development.

The Humble is pumping water north through a 4-inch line from the Brazos river to the Harmel pool; and south through a 4-inch line from the Little Wichita river to Swastika Station, from which point it is pumping east to the Carey and Ragle pools as well as west to the Harmel, Harris and Swastika pools.

Independent Oil & Gas Co., of Okmulgee, has purchased from Guilberson & Wells the property in the South Vernon pool, Wilbarger county, where the "discovery" well of that field was drilled. Consideration is reported to have been $460,000. The leasehold consisted of 20 acres and three producing wells.

Wilbarger county promises considerable activity over the next few months about 50 or 60 wildcat and semi-wildcat locations being planned for the spring. The Waggoner Refining Co. is laying a 4-inch water line to the vicinity of the South Vernon field to relieve the shortage now being experienced. Humble Oil & Refining Co. is reported about ready to start its absorption process gasoline plant which will handle 1,500,000 cubic feet of gas daily.

Gulf Coastal Salt Domes

More than 14,000 barrels initial production was added to the Gulf Coastal saline dome area this week by completions at Hull, Saratoga and South Dayton. The most significant test of all was the No. 3, lot 6, Meeker sub-division, well of the Rio Bravo Oil Co., on the north flank of the Saratoga dome, which came in for 700 barrels daily at 2670 feet. A few flank wells had been previously drilled on the east side of the dome, but most of the Saratoga production has come from relatively shallow caprock levels.

At Hull, the Yount-Lee Oil Co. got a 4000-barrel well on the old Stengler property; Humble Oil & Refining Co. completed No. 1 Merchant for 4500 barrels from the 4100 foot pay; Gulf Production Co. worked over its No. 30 Phoenix, getting about a 1500-barrel well at 3025 feet on the same lease where recently it completed No. 46 for 2800 barrels daily. At South Dayton, Mills Bennett got a 3000-barrel well in No. 3 Pickett, which has been previously reported.

Marathon Fold Region

Big Lake Oil Co. is about to complete its No. 14 well in the heart of the Big Lake field, Reagan county, which is already flowing by heads. This test is back toward the original wells in the field and between them and the phenomenal No. 11, which has been the best well so far completed. No. 14 is already making oil.

The No. 11, which at its maximum made 3960 barrels daily, was recently cleaned out and back pressure carried on the well released. It began making as high as 25 per cent water, but the quantity was cut down when back pressure was put on the well again. Preparations are now being made to put in a treating plant. At the end of February, production of the Big Lake Oil Co. was 7175 barrels daily and that of the Texon, Group 1 Oil Corp. interests 4130 barrels daily.

In Mitchell county, the Eastland Oil & Gas Co. has spudded in its No. 1 Clark "wildcat," which is being put down with a 2-cylinder Clarke gas engine. This is the first 2-cylinder engine of this type used in this district. Gas engines are peculiarly fitted for use instead of steam in areas where water has a high alkali content and where transportation of fuel is over great distances.

Oklahoma Output Continues Downward; Where Will New Oil Come From?

By A. F. Hinton
N. P. N. STAFF WRITER

TULSA, March 14.

THE past week has been uneventful, both from the standpoint of changes in the crude market and important new field developments; a shortage of news has developed, even if we are still unable to chronicle yet the arrival of the long-looked for deficiency in the nation's crude oil supply.

Oklahoma's production went through another week of rapid decline, dropping off 7000 barrels, and falling below 460,000 barrels a day for the first time since early in the summer of 1924. With this latest decline, the state's daily output is now less by more than 25,000 barrels a day than three weeks ago, and indications are that unless and until some new field is brought in to stem the ebbing tide, it will continue to drop for some time.

All the active fields are now on the decline, with but slight prospects in any case of ever again showing more than nominal or momentary increases from present producing levels. The last phrase was inserted advisedly, as since the advent of the Tonkawa deep sand a year ago, with its consequent large flush production, we have learned to be chary of saying any field is all through before its wells have been drilled to their uttermost and final depths. When they get granite, we probably would be willing to hazard the opinion that chances for production below that level were slim, but not before.

With that alibi placed in the record, and with due regard for further reserves of petroleum hidden at hitherto unplumbed depths, there is probably no danger to our reputation as a seer in saying that Tonkawa's production has continued to fall rapidly the past week. We will even hazard the statement it has finally embarked upon its final trip down the steepest part of the decline curve. The deep wells alone have dropped off about 20,000 barrels a day the past four weeks, and the entire field now is not making as much as were the deep wells alone a month ago. With the deep sand pretty well outlined and practically all locations drilled up, it seems that we can again bid farewell to Tonkawa, unless Tom Slick decides to take one down to 5000 feet and is again successful.

Considerable of the clamor and shouting with which the coming crude advance was being hailed a week ago has subsided, and those who were most emphatic in declaring that crude was going up "tomorrow morning" are now almost reconciled to waiting patiently until the event does take place. Usually, when everybody stops talking about it, and decides that maybe, after all, prices won't go up just now, is just when the Prairie Oil & Gas Co. crosses them up by doing the unexpected. From that standpoint, then, a crude raise is more imminent now than it was a week ago.

However, the failure of the larger companies to take any official notice of the Marland boost and the tilting of the ante by Waite Phillips has cast somewhat of a damper on local enthusiasms, and this was made more binding when an unexpected reduction in crude prices was announced at Smackover during the week. However, production is still falling and nothing of importance in the way of new fields now looms in the offing, so that the crude situation cannot be said to look anything but bright.

Current Production

Tonkawa ended the week with 750 producing wells, the same as the preceding week, but fell far short of being able to record the same production figures, for its output declined 5225 barrels to a daily average of 82,265 barrels. The deep wells, 87 in number, averaged only 63,409 barrels daily during the week, as compared with 68,062 barrels daily the preceding week, and ended the week producing less than 60,000 barrels, the output for March 13 having been 59,930 barrels. The field's 663 wells in shallower sands averaged 18,856 barrels a day, as compared with 19,430 barrels last week, a loss of nearly 600 barrels.

Burbank reported six new wells, bringing its total to 1677, and, as usual on the eve of an Osage sale, managed to boost its production a bit, going up 510 barrels to an average of 56,030 barrels daily. This is a pathetic gesture on the part of the great field, like an old soldier polishing up his brass buttons before a review and reflecting on the glorious days of the past. Time was when Burbank greeted the Osage sale visitors with production of 125,000 barrels a day from splendid gushers, and when each sale added a mile or two miles to its wonderful proven area, but those days are gone forever. During the past week, the Osage county side of the field produced 44,200 barrels a day, from 1482 wells, while the Kay county side accounted for 11,830 barrels, from 195 wells.

Cromwell reported four new wells during the week, making a new total of 302, but declined 3370 barrels in production, averaging 33,600 barrels a day. The margin between this field and its rival, Papoose, remains about the same, as the latter declined 2750 barrels and averaged 29,975 barrels daily. This production was derived from 126 wells, a gain of three over the preceding week. Wewoka also reported three new wells for a total of 113, and, with the assistance of the new Dixie well in the south end of the field, increased its production 690 barrels to a daily average of 11,400 barrels.

Among the state's lesser fields, Braman reported eight wells, same as the preceding week, and averaged 2375 barrels daily, a gain of 60 barrels. South Weleetka, in township 9-11, Hughes county, had 23 producing wells, the same as the week before, and declined 154 barrels in production to a daily average of 2085 barrels. Stroud reported an in-

Drilling Operations in Oklahoma, Kansas and N. Texas

	March 14 — Week Ending — March 7									
	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Total
Oklahoma										
Burbank	...	3	55	...	58	1	5	51	...	57
Other Osage	12	17	62	12	103	13	17	52	14	96
Bristow-Cushing	16	31	109	31	187	11	31	107	32	181
North Oklahoma	6	17	80	73	176	1	21	79	61	162
South Oklahoma	8	12	121	53	194	9	17	113	58	197
Muskogee	...	9	29	19	57	...	6	30	17	53
Okmulgee-Bristow	2	62	152	24	240	3	55	136	31	225
Tonkawa	...	5	39	11	55	1	4	43	11	59
Wewoka-Cromwell	19	33	240	35	327	15	34	245	36	330
Total Oklahoma	63	189	887	258	1397	54	190	856	260	1360
Kansas	67	101	252	144	564	82	102	243	147	574
North Texas										
Eastland County	...	1	17	7	25	...	18	7	0	25
Stephens County	...	16	35	21	72	...	16	39	24	79
Texas Panhandle	...	17	30	12	59	...	15	34	8	57
Mexia District	...	23	40	16	79	...	33	47	17	97
E. Tex. Wildcats	...	4	7	26	37	...	5	6	26	37
W. Tex. Wildcats	...	87	90	83	210	...	37	88	92	217
Wichita Falls	...	61	181	44	286	...	67	168	50	285
Total N. Texas	...	159	400	209	768	...	191	389	217	797
Grand Total	130	449	1539	611	2729	136	483	1488	624	2731

crease of 90 barrels in production, its average having been 3045 barrels daily, from 69 wells, the same as last week.

In Kansas, the Rainbow Bend field averaged 12,760 barrels, as compared with 13,150 barrels the week before. Kansas as a whole declined 2400 barrels to an estimated daily average of 84,850 barrels.

In Oklahoma, the week just closed, 90 wells were completed, of which 48 were oil wells, nine gas wells, and 33 dry holes. This compares with last week's report, which contained 82 completions, divided 50 oil wells, 11 gas wells, and 21 dry holes.

The 48 oil wells included in this week's report had a total initial production of 16,870 barrels, giving them an average production per well of 351.4 barrels. By a remarkable coincidence, the total initial of the 50 wells of last week's report was 16,871 barrels, or only one barrel more than this week's figure. Last week's per-well average was 337.4 barrels.

Completions reported from Kansas this week totaled 26, of which 13 were oil wells and 13 were dry holes, with no gas wells. Last week there were 14 Kansas completions, divided four oil wells, one gas well, and nine dry holes. The 13 oil wells in this week's report were of comparatively small size, their total initial production having been 1491 barrels, with an average per well of 114.7 barrels. Last week four wells, brought in 2215 barrels of new production, with per-well average of 553.8 bbls.

Completions in Oklahoma and Kansas Week Ended March 14

OKLAHOMA

Carter County

Company	Well No.	Location	Depth	Init. Prod.
C. R. Smith	6	C NE SE NE 27-2S-3W	2108–2255	30
Tidal	4	C NW NE NE 36-2-3W	2785–2822	100
Amarada	5	C NE NE SW 20-5-1E	1530–1548	20
Amarada	4	SEc SE SE 20-5-1E	1518–1525	25
Amarada	6	SWc SW SE NE 28-5-1E	1070–1153	15
Westheimer	2	C SL N½ NE NW 28-5-1E	1033–1045	12
Amarada	4	NEc SE NE NW 28-5-1E	1003–1009	20

Cotton County

Shaffer et al	3	C SE NW SW 26-2S-11W	T. D. 1892	Dry

Creek County

Empire	1	SWc NW SW 30-15N-8E	3215–3218	18M
Texas	9	C NE SE 33-18N-12E	1816–1835	5
Jackson-Wise	3	NEc SE NE NW 21-16-9E	2983–2991	90
Brick	1	SEc SW NW 32-15-10E	T. D. 3256	Dry
Phillips	1	NWc SE 12-14-9E	T. D. 3815	Dry
Cosden	1	NEc SE 28-14-9E	T. D. 3823	Dry

Garfield County

Sinclair	2	SEc NE SE SE 26-22N-4W	T. D. 2770	Dry

Grady County

Powell-Briscoe	1	C NE SW 11-4-8W	T. D. 2350	10M

Hughes County—Papoose

Independent	2	C NW NW 1-9N-9E	3340–3392	316 & 40M
Gypsy	1	C NW NW SW 2-9N-9E	3309–3316	210
Independent	4	C SW NE NE 2-9-9E	3337–3370	480
T. B. Slick	3	C NW NW SE 3-9-9E	3302–3314	1500
T. B. Slick	3	C NE SE NE 3-9-9E	3295–3311	400
Cosden	9	C SW NW NW 3-9N-9E	3280–3329	720

Hughes County—S. Weleetka

Tidal-Osage	1	C NW SE SW 3-9-11E	1632–1667	8M
Tidal Osage	6	C NW SW 3-9-11	720–731	4½M
Mid-Kansas	2	C NW SW NE 9-9-11	3052–3064	30

Jefferson County

Carter	2	NEc SW SW 34-6-5W	1310–1325	300
Prairie	2	SWc SE NW SW 34-6-5W	T. D. 1322	170
Magnolia	1	C NE NW NE 25-6-6W	T. D. 3447	Dry
Cherry et al	1	NEc NW NW 4-7S-5W	T. D. 1390	Dry

Kay County—Tonkawa

Comar	2	C SW SE NW 34-25-1W	4185–4245	1676
Phillips	5	CEL SE NE NE 34-25N-1W	T. D. 4385	Dry

Lincoln County

Magnolia	1	NEc SW 32-15-4E	T. D. 3995	Dry
Pure	1	SEc SW 12-14-4E	T. D. 4917	Dry

McIntosh County

Sargent	1	C SW SW SW 29-11-14E	T. D. 3700	Dry

Noble County—Tonkawa

Gypsy	93	C SW SW SW 2-24-1W	4222–4262	1258
Comar	3	C SW NW NE 2-24-1W	3971–4099	1264

Okfuskee County

Independent	1	NWc SE SW 33-12-11E	3662–3690	270

Okfuskee County—Papoose

T. B. Slick	4	C SE SW SE 35-10-9E	3352–3363	1080
T. B. Slick	5	C NE SW SE 35-10-9	3328–3342	600
T. B. Slick	7	C NW SE SE 35-10-9	3340–3350	500
Carter et al	2	C SW SE SE 36-12-10	T. D. 3125	Dry
Oklana	3	CEL SE NE 34-11-11	T. D. 2640	Dry

Okmulgee County

Meadors et al	2	CWL NW NE 34-16-12E	2147–2170	75 &12M
Mickelson	4	NWc SE SW 20-15-12E	1055–1073	2½M
Eastern	9	NEc SW 25-13-11E	2462–2478	138
King et al	2	NWc SE SW 11-14-12E	2040–2056	60
Henry-Noble	1	NWc SE SE 34-16-12E	T. D. 2245	Dry
Brock et al	9	CEL NE SW 32-13-11E	T. D. 2615	Dry
Smith	1	SEc NW 36-14-14E	T. D. 795	Dry

Osage County

Phillips	1	NE SE 10-21-9E	2213–2244	35
Breen et al	11	SW NE SW NW 23-21-10E	1613–1639	100
Titus et al	7	CNL NE 6-21-11E	2068–2130	25
S. S. Home	82	SW NE SE NW 36-22-8E	2406–2407	1½M
Maxwell	2	SW SE SE 5-24-11E	1740–1755	10
Wolverine	1	SE NW 14-25-9E	T. D. 2560	Dry
Seamans et al	2	SE NW 29-27-8E	T. D. 2002	Dry
Owen Osage	313	NWc 9-27-12E	T. D. 1926	Dry
Howard et al	1	SE NW 9-28-11E	T. D. 2130	Dry
Owen Osage	314	CSL NE 31-29-12	T. D. 1760	Dry

Osage County—Burbank

Company	Well No.	Location	Depth	Init. Prod.
Phillips	1	SW NE 11-27-5	3021–3071	150
Phillips	12	C SE NE SW 12-27-5	2998–3062	800
I. T. I. O.	1	NE NW 34-29-11	937–964	20

Pawnee County

Westerly	1-A	SWc SW SW 22-20-6E	3043–3111	250
Watchorn	3	C SW SE NW 4-12-3E	T. D. 2985	Dry
Greaves	2	SEc SW SW 30-21-8E	T. D. 3026	Dry
Bailey et al	1	NWc SW NW SE 15-20-7E	T. D. 3195	Dry

Payne County

Shaffer	11	NEc SE NE 2-18-5E	1284–1309	6M

Pontotoc County

Harper et al	1	SEc SW NE 19-5-7E	T. D. 3775	Dry
American	1	NWc SW SW SE 3-4N-6E	T. D. 1450	Dry

Seminole County—Cromwell

Mutual	1	C SW SW SE 33-11-8E	3292–3391	60 &50M
Carter	3	C SW NW NW 3-10-8E	3373–3441	1459
Roxana	3	C NW SE SW 3-10-8	3315–3470	100 & 50M
Southwestern	6	C NW NE NW 4-10-8	3324–3414	360 & 10M
Southwestern	8	C NW SE NW 4-10-8	3362–3459	816
Mid-Continent	6	C NW SE SE 15-10-8	3542–3547	1256
Mid-Continent	3	C SE NW SE 15-10-8	3340–3495	40 & 5M
Mid-Continent	13	C SW SE SW 4-10-8	T. D. 3410	Dry

Seminole County

T. B. Slick	1	SWc 18-6-7E	T. D. 4385	Dry

Stephens County

Magnolia	8	SEc 32-1N-8W O.W.D.	2078–2080	20
Kelly-Richburg	1	SWc NW NE 22-1S-8W	2009–2013	2M
Roxana	2	SWc NW NW 29-1-8W O.W.D.	2395–2396	15
Crump-Beard	1	C SW SE SW 11-3-5W	1269–1282	15
McBride-Foster	1	NWc NE SW SE 22-1-8W	T. D. 2102	Dry
Wells et al	1	SEc SW 36-2-8W	T. D. 3040	Dry
Lone Star	1	C SE NE NW 15-3-5W	T. D. 2149	Dry

Tulsa County

Sparks	6	CNL NW SE NW 16-18-13E	1196–1223	100

Wagoner County

Kanola	10	C NE SW 4-16-15E	1092–1097	25
Hartman	2	SWc SE NE 18-17-16E	990–1005	98M
Briscoe-Harris	1	SWc SE 7-17-16E	T. D. 1050	Dry
Sewell	1	NWc SE SW 17-17-16	T. D. 1106	Dry

KANSAS

Butler County

Empire	33	SWc 11-28-4E	2580–2582	95
Sanford et al	1	NWc SE 26-24-3E	T. D. 2802	Dry
Sparta	1	NWc SE 32-26-6	T. D. 700	Dry
Beckers et al	1	SWc NE 33-27-7E	T. D. 565	Dry
H. B. Garden	2	NEc SW NE 22-28N-5E	T. D. 2885	Dry
Shawver et al	1	SWc SE NE 29-29N-5E	T. D. 2906	Dry

Coffey County

Cross et al	1	NWc 36-21-14E	T. D. 1615	Dry
Kelly Bros	1	SWc SE SE 9-21-16E	T. D. 1896	Dry

Cowley County

Trees	1	SWc NE 10-35-5E	T. D. 3260	Dry

Elk County

Roth	8	SEc NE NW SW 12-29-8E	2012–2048	175
Empire	2	NEc NW NW 13-29-8E	2004–2038	100

Ellis County

Davis et al	1	NWc 14-12-16W	T. D. 3455	Dry

Greenwood County

Rodgers et al	1	SWc SE 10-23-9E	2337–2383	150
McGinnis et al	4	NEc NW 15-23-9	2330–2409	200
Empire	17	SEc NE 16-23-9	2332–2401	350
Phillips	19	NWc SE NW 32-23-10E	2235–2300	250
Phillips	12	C NW SE 5-23-11E	1610–1641	8
Roger-Mission	3	CNL NW 28-24-9E	2131–2187	40
Bisagno et al	5	NWc NE NE 6-25-13E	1535–1568	50
Polhamus	1	NEc SE 21-24-12E	T. D. 1750	Dry
Moore et al	1	SEc NE NW 21-24-13E	T. D. 16[illegible]3	Dry

McPherson County

Ramona	1	NWc SW 26-20-2W	T. D. 3718	Dry

Russell County

Alcorn	1	SEc 36-15-13W	T. D. 3643	Dry

Woodson County

Rodgers-Hinkle	6	NEc NW NW 32-23-15E	1563–1569	25
Ark. Fuel	1	NWc SW 1-24-14E	1627–1636	38
Iowa-Kans. Dev	3	SEc NE SE NE 2-24-14E	1628–1635	30

Completions in North Louisiana and Arkansas Week Ended March 12

Louisiana—Spring Hill

Company	Well	Location	Depth	Yield
Simms Oil Co.	Waller No. 1	28–23–11	2695	50m.cu. ft. gas
Cotton Valley				
Crusaders Oil Co.	Hope Estate B-12	13–21–10	2515	250
Fortuna Oil Co.	Cox No. 2	15–21–10	2540	15
Humble O. & R. Co.	J. Moore No. 1	34–21–10	2563	s.w.aband.
La. Oil Refining Corp.	Bodcaw No. 1	13–21–10	2515	200
La. Oil Refining Corp.	Gray No. 2	28–21–10	2580	150
Claiborne Parish—Homer				
Gulf Refining Co.	Len Langston No. 4	19–21– 7	1270	30
Bossier Parish—Belcher				
Thigpen et al.	Bernstein No. 1	11–20–13	2203	s.w.aband.
Bossier Parish—Elm Grove				
Davis & Hanby	D. J. McAnn No. 1	31–16–11	1875	junked aband.
Ouachita Parish				
Southern Carbon Co.	Fee No. 44	7–19–5E	2230	2m. cu. ft. gas
Standard Carbon Co.	Swartz No. 1	6–19–5E	2175	30m. cu. ft. gas

TEXAS
Waskom—Harrison County

Company	Well	Location	Depth	Yield
Simms Oil Co.	Vaughan No.1 Joel Lipscomb HRS		978	15m. cu. ft. gas
Panola County				
Askew et al.	Tiller No.3 Matthews HRS		995	10m. cu. ft. gas
Magnolia Pet. Co.	Develin No.1 Jordan HRS		2727	20m. cu. ft. gas
ARKANSAS				
Smackover				
Arkansas Drilling Co.	Reynolds No. 6	24–15–17	2322	35
Hunt et al.	Holton C-11	26–15–17	2360	100
Hunt et al.	Myatt B-5	22–15–17	2390	60
Whittaker et al.	Green No. 2	23–15–17	2345	65
Boyd & Bonham	Stringfellow No. 1	28–15–16	2270	70
Forrest Oil Co.	Cramer No. 10	27–15–16	2290	100
Forrest Oil Co.	Mullins No. 11	27–15–16	2290	junked aband.
Sun Company	Hardin No. 4	27–15–16	2260	75
J. W. Clark	Palmer No. 2	9–16–15	2335	55m. cu. ft. gas
George & Jones	Umstead No. 3	4–16–15	2352	2000
Howell et al.	Williams No. 3	3–16–15	1985	250
Standard Oil Co.	Alphin No. 16	2–16–15	2005	70
Weatherbee et al.	Rice No. 4	6–16–16	2265	200
Magnolia Pet. Co.	J. G. Smith No. 2	2–16–17	2392	s.w.aband.

Completions North-Central Texas, Week Ended March 14

Archer County

Company	Well No. Farm	Location—Sur.	Depth	Init. Prod.
Texhoma	1 Chilson	Denton S. L. Sec. 24	1806–1810	40
Bridewell-Gholke	5 Wilson	A. T. N. C. Sec. 26	1597–1613	130
Staley-Wynn	9-C Wilson	A. T. N. C. Sec. 23	1412–1419	30
Humphreys et al.	13-White	A. T. N. C. Sec. 35	1609–1618	75
Simms	6-Parish	H. & T. C. Sec. 25	1593–1602	75
Gulf	10-Nicholson	A. T. N. C. Sec. 37	1550–1551	80
Oil Inv	6-Fee	Harris Sec. 125	1104–1106	80
Sun	7-Farmer	Bell S. L.	1447–1448	10
Gulf	1-B-Rogers	T. E. & L. Sec. 2407	1378–1385	130
Harris et al.	1-b-Stampfli	T. E. & L. Sec. 2408	1363–1371	60
Daniels et al.	2-Stampfli	T. E. & L. Sec. 2408	1315–1335	200
Green et al.	3-Hayter	T. E. & L. 1598	1319–1331	50
Grisham-Parks	2-Hayter	T. E. & L. 1598	1332–1342	40
Grisham et al.	3-Hayter	T. E. & L. 1598	1310–1328	160
Gulf	8-Monahan	T. E. & L. Sec. 1599	1293–1304	50
Gulf	3-Rogers	T. E. & L. Sec. 2406	1298–1310	45
Gulf	2-Stampfli	T. E. & L. Sec. 2408	1328–1338	170
Gulf	3-Stampfli	T. E. & L. Sec. 2408	1333–3145	85
Gwynn et al.	2-Rogers	T. E. & L. Sec. 2407	1369–1376	20
British Amer.	3-Rogers	T. E. & L. Sec. 2400	1267–1287	20
Humble	2-Hayter	T. E. & L. Sec. 1597	1362–1365	4
Maer Stanforth	4-Monahan	T. E. & L. Sec. 1599	1305–1323	100
Murchinson et al.	16-Griffith	T. E. & L. Sec. 2400	1296–1316	125
Murchinson et al.	17-Griffith	T. E. & L. Sec. 2400	1293–1301	100
Texas Co.	2-Hill	T. E. & L. Sec. 2408	1349–1362	10
Mutual	7-Harmel	T. E. & L. Sec. 2401	1230–1237	55
Humble	2-Hausler	McCoy Sec. 16	1104–1136	15
Roxana	5-Kunkle	McCoy Sec. 8	1116–1143	20
Roxana	6-Kunkle	McCoy Sec. 8	1142–1164	60
Roxana	7-Kunkle	McCoy Sec. 8	1150–1162	100
Bridwell et al.	1-Boren	Newman	1085–1099	40
Shaw-Rathke	2-Kunkle	Hardaway	1136–1155	400
Sun	2-Kunkle	Hardaway	1139–1150	600
White Bros.	2-Kunkle	Hardaway	1137–1152	1220
White Bros.	3-Kunkle	Hardaway	1138–1155	750
Gulf	8-Nicholson	A. T. & N. C. Sec. 37	T. D. 1781	Dry
Knox	1-Wilson	A. T. & N. C. Sec. 99	T. D. 1653	Dry
Howell et al.	1-Wilson	A. T. & N. C. Sec. 66	T. D. 1700	Dry
Atlantic	1-Wilson	Day L. & C.	T. D. 1603	Dry
Lincoln	3-Oil Inv.	Harris Sec. 125	T. D. 1219	Dry
Superior	2-Kinder	Clark & Plumb Sec. 58	T. D. 1400	Dry
Hobbs et al.	3-Lane	Meade Pasture Sec. 46	T. D. 1449	Dry
Dee Bros.	1-Sadau	G. W. Stell Sec. 11	T. D. 1500	Dry
Murchinson et al.	1-Hayter	T. E. & L. Sec. 2423	T. D. 1500	Dry
Atlantic	2-Ward	Tomlinson	T. D. 1171	Dry
Gulf	1-Ward	B. B. B. & C.	T. D. 1514	Dry
Humble	4-Hayter	T. E. & L. Sec. 1598	T. D. 1357	Dry
Humble	1-Hayter	T. E. & L. Sec. 1598	T. D. 1398	Dry
Humble	5-Hayter	T. E. & L. Sec. 1598	T. D. 1380	Dry
Magnolia	1-Rogers	T. E. & L. Sec. 2407	T. D. 1502	Dry
Underwood Drlg.	3-Rogers	T. E. & L. Sec. 2400	T. D. 1401	Dry
Hart et al.	3-Kunkle	T. E. & L. Sec. 1594	T. D. 1300	Dry
Ray et al.	14-Hausler	McCoy Sec. 16	T. D. 1163	Dry
Shaw-Rathke	7-Hausler	Hardaway	T. D. 1337	Dry
Swastika	4-Neal	White	T. D. 1137	Dry
Goldsmith et al.	1-Beardon	McLyman	T. D. 1109	Dry
Cooke County				
Big Indian	1-Davis	Fannin	3519–3524	40
Powell	1-Whaley	S. E. Clement	T. D. 1096	Dry
Dawson County				
Lamesa	1-Burns	T. & P. Sec. 27	T. D. 2095	Dry
Eastland County				
Shannon-Weaver	1-Edmondson	H. & T. C. Sec. 19	T. D. 508	Dry
Dorothy	2-Downtain	H. & T. C. Sec. 12	T. D. 1635	Dry
Freestone County				
Pure	4-Bounds	Longbothan	T. D. 2938	80
Texas	4-Watson	Longbothan	2970–2990	500
Republic	5-Allmond	Wortham	2955–2986	200
Walsh et al.	1-Berry	Wortham	3007–3014	100
Boyd	3-Wilson	McNulty	2978–3017	40
Boyd	4-Wilson	McNulty	2989–3025	60
Hunt County				
Gulf-Atlantic	1-Meadows	J. Levins	T. D. 3512	Dry

Limestone County

Company	Well No. Farm	Location—Sur.	Depth	Init. Prod.
Boyd	1-Wilson	McNulty	2974–3018	60
Boyd	9-Boyd	McNulty	2980–3008	200
Boyd	11-Boyd	McNulty	3000–3010	125
Boyd	16-Boyd	McNulty	3010–3017	120
Boyd	13-Ferguson	McNulty	2995–3015	175
Boyd	14-Ferguson	McNulty	3005–3015	150
Boyd	15-Ferguson	McNulty	2990–3015	175
Magnolia	21-Boyd	McNulty	3012–3019	100
Bains-Green	1-Pate	Varila	2960–2971	1M
Mitchell County				
Sloan	3-Miller	T. & P. Sec. 22	2880–3025	75
Cal. Co.	1-Elder	T. & P. Sec. 15	2959–3055	200
Montague County				
Texhoma	2-Howard	Chambliss	988–1000	75
Mitchell	1-Hynds	S. W. Wall	631-683	20M
Lesh et al.	1-Salmon	Little Sec. 1	933–941	12
Navarro County				
Humble	14-Irvine	Taylor	1550–1597	60
Tidal	3-Bush	Smith	T. D. 1060	3M
Texas	13-Fleming	Harris	2900–2936	40
Humble	8-Kent	Smith	1590–1644	40
Pure	11-Kent	Smith	T. D. 1535	20
Humble	30-Humphreys	Smith	T. D. 1505	Dry
Garland Kent	2-Berry	Berry	T. D. 1650	Dry
Pure	5-English	Boren	T. D. 3300	Dry
Reagan County				
Big Lake	15-Univ.	University Sec. 12	2870–2875	1680
Mid-Kansas	1-Hughes	E. L. C. Sec. 1225	T. D. 3345	Dry
Crockett	1-Univ.	University Sec. 9	T. D. 3500	Dry
Hughes-Wade	1-Univ.	University Sec. 5	T. D. 3305	Dry
Runnell County				
Russell	5-Russell	Hughes	T. D. 3050	Dry
Stephens County				
Scott-Bateman	1-Curry	T. E. & L. Sec. 3391	3060–3302	5 & 16M
T. P. C. O.	5-Binney	T. P. Sec. 57	1699–1719	40
Mid-Kans.	11-Tulles	T. P. Sec. 19	T. D. 3170	Dry
Republic	2-Knox	T. P. Sec. 6	T. D. 3560	Dry
Magnolia	7-Brown	L. A. L. Sec. 17	T. D. 3220	Dry
Magnolia	8-Brown	L. A. L. Sec. 17	T. D. 3190	Dry
Wichita County				
Moore	3-Burnett	H. & T. C. Sec. 7	1592–1597	110
Hamilton et al.	1-Fisher	H. & T. C. Sec. 10	T. D. 1346	Dry
Franklin et al.	1-Everets	Tarrant Sec. 1	T. D. 1294	Dry
Couch	1-Smith	Travis Sec. 3	T. D. 1600	Dry
Parker et al.	1-Love	Kinnard	T. D. 1829	Dry
Simms	2-Dutton	Denton S. L. Sec. 12	T. D. 1921	Dry
Wilbarger County				
Hart	1-Smith	H. & T. C. Sec. 23	T. D. 2135	Dry
Skinner et al.	1-Strait	H. & T. C. Sec. 7	T. D. 2501	Dry
Staley et al.	1-Waggoner	H. & T. C. Sec. 109	T. D. 2062	Dry
Bridwell et al.	6-Stephens	H. & T. C. Sec. 83	T. D. 2283	Dry
Mutual	1-Zipperle	H. & T. C. Sec. 80	1308–1333	175
McCamey et al.	4-Richardson	H. & T. C. Sec. 83	1330–1337	175
McCamey et al.	4-Stephens	H. & T. C. Sec. 83	1256–1326	75 &7M
McCamey et al.	2-Stephens	H. & T. C. Sec. 83	1260–1330	400 & 2M
Massey et al.	6-Waggoner	H. & T. C. Sec. 100	2016–2058	130
Staley et al.	2-Stephens	H. & T. C. Sec. 83	1274–1313	45
Wells et al.	3-Waggoner	H. & T. C. Sec. 99	1279–1291	150
Levy et al.	1-Waggoner	H. & T. C. Sec. 65	1417–1428	147
Young County				
Humble	1-Schlegel	B. B. B. & C. Sec. 1	1172–1180	108
Murchinson et al.	13-Gambril	B. B. B. & C. Sec. 1	1219–1224	125
Texhoma	2-Gambril	B. B. B. & C. Sec. 1	1215–1223	150
Texhoma	5-Gambril	B. B. B. & C. Sec. 31	1224–1227	500
Texas	6-Gambril	B. B. B. & C. Sec. 31	1203–1210	225
Simms	5-Carpenter	T. E. & L. Sec. 237	1021–1022	150
Simms	6-Carpenter	T. E. & L. Sec. 237	1019–1020	250
Texhoma	4-Gambril	B. B. B. & C. Sec. 1	T. D. 1231	Dry
O'Neal et al.	1-Clarke	T. E. & L. Sec. 218	T. D. 1305	Dry
O'Neal et al.	1-Bullock	T. E. & L. Sec. 346	T. D. 1303	Dry
Kentucky-Roxana	1-Bullock	T. E. & L. Sec. 331	T. D. 1503	Dry

Standard Derricks Recommended for Okla., Kans. and Texas

Staff Special

TULSA, March 17

J. J. CONRY, general superintendent for the Carter Oil Co., and district chairman of the committee on standardization of derricks of the American Petroleum Institute, has sent to W. W. Fondren, Humble Oil & Refining Co., Houston, national chairman, sizes for standard derricks which will be satisfactory for work in the Mid-Continent field. The dimensions recommended were decided upon at a meeting of operators and derrick manufacturers held March 3 in the rooms of the Mid-Continent Oil & Gas association.

For standard cable tool steel derricks, the conference resulted in a recommendation for a height of 82 feet, from the level of top of derrick floor to the level of the water table, base 20 feet from center to center of derrick legs, and with top opening five feet in clear. For turnbuckle or wooden leg cable tool derricks, a height of 82 feet was recommended, with base 22 feet outside measurement, or 20 feet eight inches clearance measurement, with top opening five feet in clear.

For deep rotary drilling, the California standard type derrick was recommended, with height of 122 feet, base of 24 feet, and top opening six feet clearance. For shallower rotary work, a derrick 96 feet high was recommended, with 22-foot base, and five-foot opening. All heights to be measured in accordance with A. P. I. specifications, i. e., from level of derrick floor to level of water table.

The dimensions agreed upon for Oklahoma and Kansas rotary derricks differ to a considerable degree from those recommended at a similar meeting held recently in Houston, under leadership of John Tucker, general superintendent Gulf Production Co., and district chairman of the derrick standardization committee. It is reported that this meeting resulted in the adoption of three standard sizes of rotary drilling derricks, all having bases of 24 feet, and top openings of four feet six inches, with heights of 90 feet, 114 feet, and 122 feet respectively. A standard pumping derrick also was recommended, having height of 66 feet, base 20 feet and opening four feet six inches. This conference made no recommendations for cable tool derricks.

Producers present at the Tulsa meeting included: E. A. Cook, Twin State Oil Co.; H. C. Davis, Gypsy Oil Co.; G. D. Almen, Winona Oil Co.; C. F. Farren, Farren & Wood; W. J. Stewart, Devonian Oil Co.; L. C. Camblin, Waite Phillips Co.; Fred H. Reusch, Gardner Petroleum Co.; R. A. Griffith, Sinclair Oil & Gas Co.; A. F. Rose, Tidal Oil Co.; George Hannum, Mid-Continent Petroleum Corp. (Cosden) H. P. Rhees, Prairie Oil & Gas Co.; J. J. Conry and C. D. Watson, Carter Oil Co.

Derrick manufacturers included: Charles W. Flint, Tulsa Rig, Reel & Manufacturing Co.; James A. Thomas, Superior Tube Co.; G. P. Slater, Slater Bros. Co.; C. R. Krause, Lee C. Moore Co.; Deck Wilmoth, National Turnbuckle Derrick Co.; H. L. Dickson, McGraw-Baughman-Bearly Lumber Co.; Walter S. Estus, Tulsa Rig, Reel & Manufacturing Co.; L. G. E. Bignell, Parkersburg Rig & Reel Co.

Operators Beat Order on Vacuum Regulators

OKLAHOMA CITY, March 17.—Oil producers and natural gasoline manufacturers apparently have won a victory over the Corporation Commission and have sidetracked the issuing of an order by the commission that would have compelled every operator using vacuum to put on each well a "special vacuum regulating device which will permit no greater degree of vacuum than is legally authorized."

A hearing was called for yesterday by the commission to give the producers a chance to state their views on the proposed order.

The principal witness opposed to the oil men at the hearing was C. P. Buck of the Vacuum Control Co. of Topeka, Kan., who has a patented regulator which he ardently hoped would be designated by the commission as the particular article to be used if the proposed order was issued.

The operators presented convincing testimony that no regulators beyond those now in use are necessary, that to insist upon the use of more of them would place an undue financial burden on the industry and that to seal the regulators so that none but Corporation Commission inspectors could open them would cause loss and inconvenience besides not preventing a dishonest operator from maintaining a higher degree of vacuum than that allowed by the commission.

During the course of the hearing the commission apparently learned considerable about vacuum that it had not known before. Harry H. Smith of the Mid-Continent Oil & Gas Association, was in charge of presenting the case of the oil men to the commission, seconded by A. V. Bourque of the Association of Natural Gasoline Manufacturers.

Among those present were: D. D. Harley, Transcontinental Oil Co., F. E. Rice, Phillips Petroleum Co., George E. Edgett, Carter Oil Co., R. R. Dean and J. E. Curran, Waite Phillips Co., J. D. Iams, Gypsy Oil Co., S. S. Smith, Roxana Petroleum Corp., George H. Hannum, Cosden & Co., H. B. Bernard, Sinclair Oil & Gas Co. and A. J. Schlosser, Barnsdall Refining Co.

Commissioner Hughes started conducting the hearing but got sleepy and was relieved by Commissioner Capshaw.

Mid-Continent Price for Salt Creek Crude

CASPER, WYO., March 14.—The Salt Creek field is now virtually on a Mid-Continent price basis. For some time several companies, including The Texas Co., White Eagle Oil & Refining Co. and Producers & Refiners Corp., have been paying Mid-Continent prices, which amounted to 35 to 40 cents premium over the prices posted by the Midwest Refining Co.

The Midwest is now making new contracts with companies from which it purchases, putting into effect Mid-Continent prices.

Swim Succeeds Miller

TULSA, March 13.—Ray E. Miller, formerly in charge of safety work for the Marland companies, is now safety engineer for the Petroleum Safety Council of the Mid-Continent Oil & Gas association, and will be in active charge of the enlarged safety program already announced by the council as its program for the forthcoming year.

C. L. Swim, of the insurance and tax department of Skelly Oil Co. has been elected Oklahoma director on the safety council to succeed Mr. Miller.

Gulf Coastal Texas Completions, Week Ended March 14

Company	Lease—Well	Field	Depth	Prod.
Humble Oil & Refining Co.	Simms-Smith 56	Goose Creek	4125	300
Humble Oil & Refining Co.	Merchant 1	Hull	4075	4000
Mecom Oil Co.	Mecom 7	Hull	2965	60*
Republic Production Co.	Dolbear 8	Hull	2350	50*
Republic Production Co.	Dolbear 97	Hull	2100	100
Republic Production Co.	Dolbear 102	Hull		75*
Republic Production Co.	Dolbear 103	Hull		75*
Higgins Oil & Fuel Co.	Taylor 4	Hull	3280	50*
W. B. Flynn et al.	Ray 3	Hull	2225	60*
Yount Lee Oil Co.	Stengler 6	Hull	2675	5000
Baker Oil Co.	White 11	Spindle Top	885	20
Ellis & Lancaster	Lawrence 1	Spindle Top	850	9
Rio Bravo Oil Co.	Bryan 3	Saratoga	2650	750
Ada Belle Oil Co.	Levitt & Davis 90	Batson	475	10
Ada Belle Oil Co.	Levitt & Davis 91	Batson	400	10
Acorn Oil Co.	Paraffine 53	Batson	560	20
Gulf Refining Co. of La.	G. & N. G. 61	Vinton, La.	2450	400
Vinton Petroleum Co.	Rescue 6	Vinton, La.	2350	100
Just Oil Co.	Lyons 1	Vinton, La.		100

*—Pumping.

Pipe Line Projects Make Market Prospect for Tubular Goods Bright

By Special Correspondent

PITTSBURGH, March 17

MOST of the oil country goods orders coming through to pipe makers here and in the Mahoning Valley this week and last have been for limited tonnages, three to 10 carloads at a time. Several tentative line pipe inquiries are understood to be coming up for attention, however, and the prospects are exceedingly bright for a long period of good business ahead. Drilling is progressing in the various oil fields in good shape and now that the roads are opening up somewhat, more buying will be done. The Robstown Pipe Line Co., Robstown, Tex., recently incorporated for $250,000 will build a pipe line from Robstown gas fields to Galveston.

In addition to pipe, meters, gate valves and other equipment will be needed. W. L. Moody of Galveston, is president; H. A. Root and C. T. Mathers also are interested. The early construction of a 12-mile pipe line in Irion county, Texas, is contemplated by the Humble Pipe Line Co., a subsidiary of the Humble Oil & Refining Co., Humble building, Houston, Tex. This interest is now arranging for an increase in its capital from $12,000,000 to $24,000,000. Miscellaneous demand from jobbers for casing, drive pipe, surface pipe, etc., is good. Stocks are being disposed of in some directions and replacements quickly are made so that the pipe mills continue to operate on an average of in excess of 90 per cent of capacity.

Plates again are quotable at 2.00 to 2.10 cents a pound, with some small lots bringing 2.20 cents, f.o.b. Pittsburgh district mills. Not much demand is arising for storage tanks, although some small tanks for oil stations, small bolted portable tanks, for various oil purposes are in good demand, the latter requiring blue annealed sheets, which are quoted at 2.70 cents a pound, f.o.b. Pittsburgh since the 2.80 cent price has practically disappeared. The Pan American Petroleum Corp., Los Angeles, has all bids in on 27 tanks requiring 1500 tons of plates and the order probably will be placed this week.

The Vacuum Oil Co., has purchased four 55-ton steel hopper cars from the American Car & Foundry Co. A few tank car inquiries are out.

The National Transit Pump & Machine Co., Oil City, Pa., a subsidiary of the National Transit Co., on March 11 received an order for pumping equipment, collar clamps, pipe line tongs and other tools for the Andean Pipe Line Co., which is constructing a pipe line along the Magdalena river, South America. This order is one of the largest received by this company in many months.

The Beacon Oil Co., Boston, recently suffered considerable loss through a fire at its refining plant at Everett, Mass.

The Barnsdall Refining Co., Barnsdall, Okla., had a bad fire recently at its oil refinery. Damage is estimated at $500,000. High pressure cracking stills, gasoline plant equipment, etc., are the main items of equipment to be replaced. Frank Holsten, Petroleum building, Tulsa, is vice president in charge of refinery operations.

The Wichita Gasoline Co., Breckenridge, Tex., has placed a contract with Clark Bros. Co., for two unit 80-horsepower direct driven engine compressor equipment for its gasoline plant expansion.

The Shell Oil Co., Vancouver, B. C., announces its intention to build oil refineries on the Frazer river, near Vancouver.

The Paragon Refining Co., Toledo, O., contemplates a $500,000 expansion program. Plans include a new cracking plant with subsidiary buildings. Immediate expenditures will involve $250,000. E. W. Edwards, Cincinnati is president; Howard W. Edwards, vice president, C. J. Leroux, secretary-treasurer and C. E. Doden, assistant secretary-treasurer.

Loss approximating $100,000 was suffered by the Shaffer Oil & Refining Co., Cushing, Okla., through a fire which recently destroyed a portion of its oil storage and distributing plant. Plans for rebuilding now are being formulated.

The American Oil Pump & Tank Co., 6300 St. John avenue, Kansas City, Mo., plans the early construction of a 1-story plant and basement building on Independence Road. W. A. Nerrill is general manager.

The Sun Oil Co., Finance building, Philadelphia, plans a 2-story storage and distributing plant on East avenue, Long Island City, which will cost in the neighborhood of $50,000.

The Almer Tank Line Co., 464 West Jackson boulevard, Chicago, was recently incorporated with 400 shares no par value stock to manufacture and deal in tank cars by Henry Almer, E. V. Almer and H. L. Bradshaw. Chapman, Cutler & Parker, 111 West Monroe street, Chicago are correspondents.

Two New Members Admitted

TULSA.—M. S. West, purchasing agent for the Continental Oil Co., and Harold B. Ward, assistant purchasing agent for the H. F. Wilcox Oil & Gas Co., both of Tulsa, were elected to membership in the Tulsa Purchasing Agents association at the regular meeting March 10.

Doherty Buys 783 Tank Cars

NEW YORK, March 13.—Henry L. Doherty & Co. announce that the Cities Service Tank Line Co., transportation subsidiary of Cities Service Co. has just contracted with a large tank car manufacturing concern to build 783 steel tank cars.

These cars will be used by the Cities Service Refining Co., Empire Gasoline Co., Empire Refineries, Inc., Empire Gas & Fuel Co. and the Crew Levick Co. The newly purchased cars will possess all modern improvements and are of special types. When these cars are delivered, the oil division of Cities Service will have about 3000 tank cars in operation.

Purchasing Agents to Hold Show

MILWAUKEE, March 14.—The tenth international purchasing agents' convention will be held by the National Association of Purchasing Agents at the Milwaukee auditorium, Milwaukee, on May 25 to 28 inclusive.

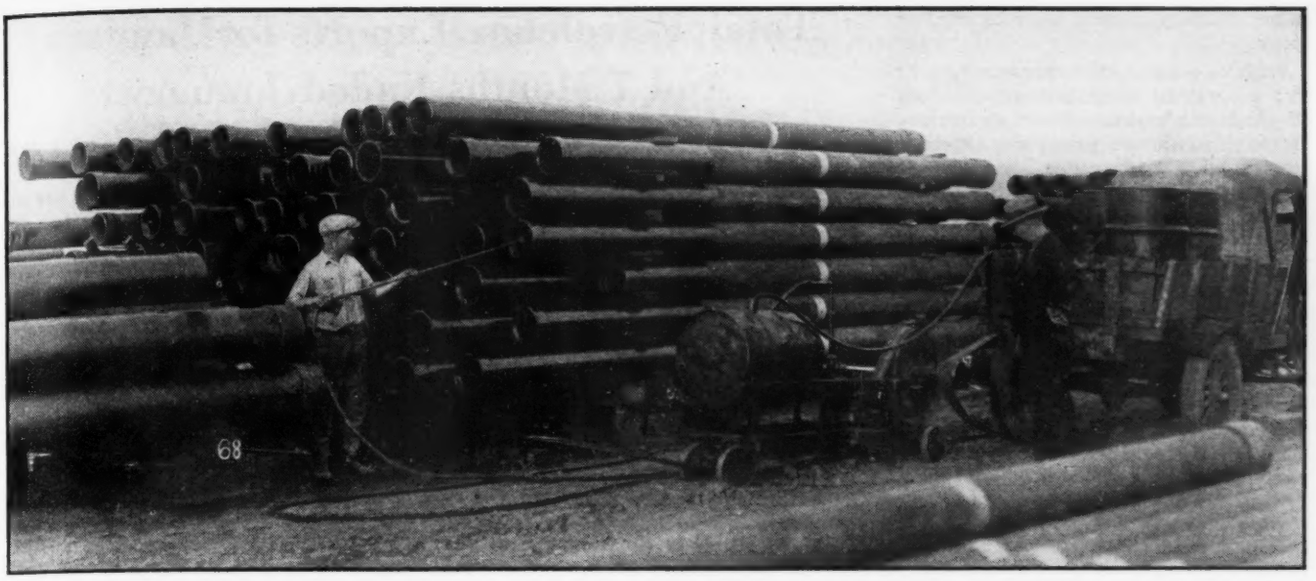
The convention committee urges all those who expect to attend to inform the general chairman, Walter H. Wenzel, of the Vilter Manufacturing Co., 935 Clinton st., Milwaukee, and those planning to exhibit are requested to send in their space reservations immediately to Ole A. Olson, Milwaukee Paper Box Co., 720 South Pierce st., Milwaukee.

TULSA.—V. C. Fuller, purchaser for the Gypsy Co., was called to Portola, Cal., on account of the serious illness and subsequent death of his mother, who had been in poor health for several years. The body was taken to Kansas City for burial. Mr. Fuller, who formerly was president of the Tulsa Purchasing Agents association, is receiving codolences from a large circle of friends on his bereavement.

TULSA,—The Welding Engineering Co. of Bartlesville, has contracted for the electric welding of 14 tanks of 55,000 barrel capacity for the Shaffer Oil & Refining Co. at Cushing, it was announced recently by Harold C. Price, manager. The company also has arranged to weld five 80,000 barrel tanks being built at Atreco, Texas, for the Atlantic Refining Co. by the Kansas City Structural Steel Co.

TULSA.—Robert N. Miers, purchaser for the Texas Portland Cement Co., Dallas, and regional vice-president of the National Association of Purchasing Agents, was a visitor in Tulsa the past week and was a guest of the Tulsa association at its meeting March 10.

BARTLESVILLE.—G. A. Thompson, purchasing agent for the Empire companies, is on an inspection trip to company refineries and plants in southern Oklahoma and northern Texas.



Portable spraying device for oiling pipe in ware-house yards devised by men of the Gypsy Oil Co. Not only is a great saving in time and money effected; but thorough protection against corrosion is given.

Portable Oil Sprayer Effects Big Savings

By A. F. Hinton

N. P. N. STAFF WRITER

TULSA, March 14

HERE is a simple, safe, rapid, and cheap method of oiling pipe when stacked—a method that uses only one-third the amount of oil, requires less than one-third the time usually spent on this job, and oils the pipe thoroughly both inside and out. And, best of all, it costs only the labor attendant upon hunting around amongst old material which would otherwise have been classified as junk, for the few articles necessary in its assembly.

Oiling stored pipe to protect it against corrosion has long been recognized as necessary, but the problem always has been the thorough application of the oil. Usual means of doing the oiling have been a man standing on top of the rack of pipe, armed with a sprinkling can or bucket, from which he would generously sprinkle crude oil on top of the topmost joint, a lesser portion on the sides, and none underneath. This affords only part protection, as the pipe will rust as quick, or quicker, in the very places where it is most difficult to apply the oil.

In addition to the inefficiency of such oiling, it is a dangerous job, as it is always dangerous to walk on top of a rack of pipe—even when footing is not being momentarily rendered less secure by covering the pipe with oil. Also, this is extravagant, as it uses much more crude than is really necessary to cover the pipe thoroughly. Finally, the inside of the pipe, which is equally subject to corrosion, especially if it has been used in a hole where salt water was found gets no oil at all when the old method is used.

An Improved Method

Enter now modern ingenuity and the ever-present Ford truck. In the pipe yard of the Gypsy Oil Co., at Shidler, Okla., in the heart of the great Burbank field, thousands of joints of pipe are stacked in orderly rows, the stacks averaging probably 90 joints each. Under old methods of oiling this pipe—which has to be done every two or three months if the pipe is to be well taken care of—it required three drums of oil per stack, and took a man three or four hours to apply it. Now the company is oiling a stack and a half of pipe with one drum of oil, and is able to finish one stack in considerably less than one hour.

Here's how it is done. A little wheeled rack originally intended to carry a Ford motor for an air drill to be used in ditching was utilized as the base for the oil sprayer. Where the Ford engine was to have been placed, a drum of crude oil now rests. At the other end of the rack is a 1½-inch centrifugal pump, hooked up with a 2-inch jack shaft and an old wooden pulley connected by a short belt to the pulley of the pump. Beyond the pulley is a small drive pulley, from which a piece of 4-inch belting runs around the jacked-up rear wheel of a Ford truck, which delivers the power. The truck carries three drums of crude oil, the contents of which are siphoned out through a rubber hose to the drum on the rack. The pump draws oil from this drum and discharges through a length of rubber hose. At the operating end of the hose is a 4-foot piece of ⅜-inch pipe, on the end of which

ON this page is an article about an inexpensive and practical method for saving both time and money in the handling of oil field tubular goods. It fits into the needs of the small company as well as the large. Any warehouse man or his attendants will appreciate the suggestion in this article. If any such are among your friends, send this copy of National Petroleum News to him with this page marked: or if you cannot spare the copy, tearout the page and send it to him.—Editor.

is an ordinary garden hose nozzle, or spray.

With this outfit, the operator can direct a spray of oil onto the pipe from all directions and can cover its surface thoroughly with a minimum expenditure of oil. By inserting the piece of 3/8-inch pipe into the end of the casing he can spray the inside for half the length of the joint, repeating the process from the other end. The sprayer works so well and so rapidly that the operator has to keep stepping in order to avoid using too much oil. Thrusting the nozzle into the casing and withdrawing it almost immediately leaves the inside of the casing completely covered with a thin film of crude, which is all that is needed for protective purposes.

Casing and other pipe is not the only class of material stored in a warehouse yard that is benefited by an occasional oil bath. The treatment is just as beneficial for boilers, for instance, as well as for steel derricks and parts, rig irons, and other metal of this character stored out in the open. The Gypsy's sprayer covers these as handily as it does pipe. Some companies make the mistake of using oil skimmed from b.s. ponds or from earthen storage for this purpose, but this is bad practice, and usually is worse than leaving the material untreated. The Gypsy warehouse department uses only good clean oil, taken direct from the stock tanks, for this purpose.

The sprayer idea was worked out by E. P. Gamble, warehouse foreman at Shidler, and F. H. Zinn, of the Gypsy's material department in the Tulsa office, and was built by the former. In the accompanying photograph, Gamble is shown at the right, watching the wheels go round. The yardman shown at the left is wearing a white shirt to show how clean one can remain, even when oiling pipe—if he uses the up-to-date sprayer.

Methodical Pipe Stacking

In stacking pipe, the Gypsy places the collar ends at one end of the rack, lining them up evenly. The odd-ends are fitted with thread protectors, and, due to differences in lengths of joints, this side of the stack, which is the one shown in the picture, presents an irregular appearance. After the stack has been tallied, number of joints and length of each joint being listed, a white band is painted around the stack, giving the appearance from a distance of a bundle tied up with white cord. As long as this white band is visible in an unbroken line around the stack, it is prima facie evidence that no pipe has been removed from the stack since the tally was made, for any joint removed from the outer layer leaves a gap in the white line. This method saves a great deal of time in taking inventories of pipe in the yards, which has to be done once a month. A glance at a stack discloses at once whether or not there has been additions or withdrawals since the last inventory. The stack in the picture contains 85 joints of 12½-inch casing.

Total Petroleum Exports for January And 7 Months Ended January

	Exports in Jan., 1925	Change over Dec., 1924	Change over Jan., 1924	7 months ended Jan., 1925	Change over 7 mos. ended Jan., 1924
Crude (bbls.)	1,133,586	+ 105,956	— 350,939	9,362,532	— 1,420,025
% Change		+ 10.3	— 23.6		— 13.1
Refined Products (gals.)	302,081,472	—18,505,011	+23,902,170	2,281,717,062	+295,659,087
% Change		— 5.7	+ 8.5		+ 14.8
Gasoline (gals.)	95,582,872	— 5,108,516	+ 9,563,393	690,199,208	+162,896,965
% Change		— 5.07	+ 11.1		+ 30.8
Kerosene (gals.)	70,022,610	—15,925,550	+ 5,572,607	544,745,560	+ 36,447,304
% Change		— 18.5	+ 8.6		+ 7.1
Gas and Fuel Oils (gals.)	97,104,280	— 8,078,491	— 5,646,683	840,642,126	+ 70,782,585
% Change		— 7.6	— 5.4		+ 9.2
Lubricating Oils (gals.)	39,371,710	+10,607,546	+14,412,853	206,130,168	+ 25,532,293
% Change		+ 36.6	+ 57.7		+ 14.2
Paraffin (lbs.)	31,928,829	+ 325,460	— 7,420,554	209,252,599	+ 7,754,291
% Change		+ 1.02	— 23.2		+ 3.8

VALUE of crude oil exported in January totaled $1,708,117, or an average of $1.506 per barrel, covering all methods of shipment. Average value in December was $1.07 per barrel, and in January, 1924, $1.20 per barrel.

Value of all refined products exported in January was $31,338,926, or an average value of 10.3 cents per gallon, as compared with 9.6 cents in December, and 9.4 cents in January, 1924.

Value of gasoline exports in January totaled $12,748,682, or an average of 13.3 cents per gallon, as compared with 13 cents in December, and 12.6 cents in January a year ago.

Value of kerosene exports in January was $6,896,569, or an average value of 9.8 cents, compared with 8.7 cents in December, and 9.4 cents in January, 1924.

Value of gas and fuel oil exports in January was $3,607,675, or an average of 3.7 cents per gallon, compared with 3.4 cents in December, and 3.2 cents in January a year ago.

Value of lubricating oils exported in January totaled $8,086,000, or an average value of 20.5 cents, compared with 23.1 cents in December, and 24 cents in January, 1924.

Value of paraffin wax exports in January was $1,691,625, or an average of 5.2 cents, compared with 5.4 cents in December, and 3.7 cents in January, 1924.

Gulf Coastal Water Shipments, Jan., 1925 Compared With Dec., 1924

(All figures in barrels of 42 gallons)

Company-Port	Coastwise Refined Dec., 1924	Coastwise Refined Jan., 1925	Export Refined Dec., 1924	Export Refined Jan., 1925
Standard of Louisiana, Baton Rouge	1,108,419.00	883,894.00	746,862.00	1,298,223.00
The Texas Company, Port Arthur	1,390,953.00	983,038.00	474,676.00	478,137.00
Gulf Refining Co., Port Arthur	1,941,681.14	2,302,273.98	.....	73,534.44
Magnolia Petroleum Co., Beaumont	1,599,255.50	1,140,873.11*	.....	.....
Sinclair Refining Co., Houston	186,179.00	314,269.24	45,444.00	.....
Humble Oil & Refining Co., Baytown	1,054,803.00	1,070,888.00	.....	.....
Marland Oil Co., Texas City	55,641.00	65,251.00	.....	.....
Pure Oil Pipe Line Co., Smiths Bluff	653,526.07	.....	20,799.02	.....
Galena Signal Oil Co., Houston	212,000.00	210,000.00	175,000.00	78,000.00
Deepwater Oil Refineries, Houston	30,000.00	20,000.00	.....	.....
Totals	8,142,457.71	6,990,487.33	1,462,781.02	1,867,894.44

	Coastwise Crude		Export Crude	
Standard of Louisiana, Baton Rouge	1,657,920.00	1,587,246.00	.....	.....
The Texas Company, Port Arthur	417,390.00	332,062.00	.....	26,663.00
Gulf Refining Co., Port Arthur	.....	.....	.....	.....
Magnolia Petroleum Co., Beaumont	77,097.39	75,871.08*	.....	.....
Sinclair Refining Co., Houston	193,312.00	44,523.09	.....	.....
Humble Oil & Refining Co., Texas City	1,560,613.50	1,173,036.00	.....	.....
Baytown	635,389.34	392,705.00	.....	124,207.00
Neches Terminal	309,255.00	134,606.00	.....	.....
Marland Oil Company, Texas City	144,593.00	59,330.00	.....	.....
Pure Oil Pipe Line Co., Smiths Bluff	171,818.19	.....	.....	.....
Atlantic Oil Producing Co., Atreco	47,406.33	303,956.99	.....	.....
Port Arthur	326,466.90	238,654.21	.....	.....
Pasadena	139,806.96	149,716.49	.....	.....
Smiths Bluff	318,473.84	385,381.32	.....	.....
Sun Oil Company, Sabine Pass	121,174.00	205,022.00	.....	.....
Swiftsure Petroleum Co., Texas City	284,217.33	342,421.00	.....	.....
Vacuum Oil Co., Texas City	227,724.00	234,225.00	.....	.....
Totals	6,632,657.78**	5,658,756.18	.....	150,870.00

*—Magnolia makes no distinction in reports between coastwise and export figures.
**—Revised figure to include shipments of the Sun Oil Company.

Field Men May Buy Sometimes But Not Indiscriminately

Staff Special
TULSA, March 16

UNRESTRICTED buying of supplies in the field is a source of heavy expense to those companies which still permit it. It also makes for confusion and extra expense in the office, in checking invoices and otherwise handling the field orders. Most large companies have reached the point where buying by field men has been reduced to the absolute minumum of necessity, and field order books, formerly carried by practically all men who had field work to do, are now found in the possession of only a favored few.

Curtailment of the number of field purchases, together with a restriction on indiscriminate buying without regard to price, are saving thousands of dollars monthly for those companies which have gone into this phase of purchasing with a view of cutting down operating expenses. The tendency now is for as nearly as possible all buying to be done by the head office purchasing department, with only a few men allowed to make field purchases, and then only in times of emergency, and with the express permission of the purchasing department.

The Gypsy Oil Co., the second or third largest producer of crude in the Mid-Continent field, and a company which is continually trying to improve upon old methods or devise new ones which are better, has had for some time past a scheme to regulate field buying which is well worth the consideration of all producers, large or small.

With this company, the only men allowed to make emergency purchases in the field are the warehouse foremen, and they are the only bearers of emergency field order books, by means of which the supply company is paid when the bills come in. The warehouse foreman, when forced to buy an article locally, instead of waiting until his regular stock has been resplenished, or when needing something that is not carried in his warehouse stock must advise the Tulsa office, usually by telephone. The head office then ascertains from other warehouses whether or not they have any excess of the needed articles in stock; if they have not, the warehouseman is authorized to go ahead and make the purchase.

Monthly Guide Made Up

Having received this permission, he still may not follow his own ideas as to where to buy the article in question, but is still under orders from the head office. This is accomplished through the use of a "Buyer's Guide" compiled once a month in the office of the purchasing agent and distributed to all the warehouse foremen. This guide contains a list of every conceivable article needed in the field and not carried in stock at company warehouses, placed in alphabetical order, and carrying key numbers which indicate which supply house is first choice, which one second, and so on.

To the right of the alphabetical list of commodities, there are listed six supply companies. Under each company is a number which indicates the standing of the company on the particular article under consideration. The company having "No. 1" is the company having the lowest price on the article, with due consideration for quality, and it is the company from which the article reeded must be purchased. Each other company carries a number as well, giving it a definite standing. If two or more companies offer the same price for the same article, or its equivalent, both carry the same number; in other words, there is no choice between them.

This guide is compiled by sending the list of articles to each of the supply companies separately along about the end of the month. Each company goes through the list and notes thereon its prices for the ensuing month on the articles listed. When these lists have been returned to the purchasing department, an analysis is made of them, the companies are given their ratings, the final list is made up, and each warehouseman receives a copy for his guidance during the month. The supply companies, of course, do not have access to the complete tabulation, and have no opportunity of ascertaining their competitors' prices. By not getting business from the Gypsy in the field, however, they are furnished pretty good indications that their prices are too high.

Price Not Only Factor

Price is naturally the main thing in making up the guide, but it is not the whole thing, by any means. Certain companies handle articles of such merit that a higher price paid for them renders them cheaper than lower prices paid for less desirable articles. Such items as these are given due consideration in compiling the guide, and the company handling the preferred article is given No. 1, regardless of price, unless, of course, some other company is handling the same article at a lesser price. An instance of this is in the case of bull ropes, for which the Gypsy pays more per pound than the market on ordinary ropes, because the kinds it buys are far superior in quality to the cheaper kind. The two supply companies handling the two favored brands of bull ropes are accordingly given No. 1 under this heading, without reference to prices of other companies.

In addition to saving the company thousands in getting the desired article at the lowest price in the field, such a method also is a means of large saving in the simplification of office practice, as it cuts down the number of fields orders written, and renders much more easy the monthly check of invoices. The table printed with this article gives an idea what a section of the guide looks like.

Sinclair Men Promoted

TULSA.—C. L. Brown, formery division superintendent for Sinclair Oil & Gas Co. in the Drumright district, will become general superintendent of the operating division with headquarters in Tulsa, effective April 1.

H. M. Coulson, formerly division superintendent at Cleveland, Okla., will become assistant superintendent of the operating division, with headquarters at Cleveland.

W. W. Baker, formerly superintendent of construction, with headquarters at Shidler, Okla., will be transferred to Tulsa, and will become general superintendent of the construction department.

Buyer's Guide for the Month of February and until receipt of next issue. When making purchases of the following material give No. 1 first choice, No. 2 second choice, No. 3 third choice, etc.

	A Co.	B Co.	C Co.	D Co.	E Co.	F Co.
AXES-SINGLE AND DOUBLE BIT	1	2	6	5	4	3
BABBITT						
Number Four (4)	2	1	3	5	..	4
Genuine	2	5	4	1	..	3
BARRELS-WORKING						
2' x Any Length	1	2	5	5	3	4
3' x Any Length	1	2	5	5	3	4
BARRELS-O'BANNON AND PARTS	1	..	..	..	2	..
Repacks only for O'Bannon	2	1	..	..	1	..
BINDERS-LOAD	1	4	3	6	2	5
BLADES-HACK SAW	2	3	2	4	3	1
BOLTS-MACHINE	4	1	3	3	2	2
BOLTS-CARRIAGE	2	1	4	3	..	5
BRICK-FIRE	1	3	4	2	4	2
BROOMS-WAREHOUSE	5	4	3	2	1	3
CANS-WOOD JACKET OIL	1	2	4	5	3	6
CLAMPS-COLLAR LEAK						
Dresser	1	..	..	3	3	2
Dayton	..	1	3	4	..	2
CLAMPS-MISCELLANEOUS						
Anchor, Casing and Tubing	2	1	3	5	4	4
Belt	1	3	2	4	1	3
Combination	1	2	3	5	2	4
CLIPS-WIRE LINE	2	3	5	6	1	4

Sample of Gypsy Oil Co. "Buyer's Guide" sent out monthly to warehousemen as instructions for making emergency field purchases.

Standards of Indiana and Nebraska and Solar Have Good Years

By Roger B. Stafford
N. P. N. FINANCIAL EDITOR

CLEVELAND, March 13

A GREAT deal of the bearish talk last year concerning the distress of oil companies seems to have been without foundation if the statements of three of the Standard Oil group prove to be good indicators for the other former subsidiaries of the old Standard of New Jersey.

Statements of the Standards of Indiana and Nebraska and Solar Refining Co. show good profits for 1924. The Nebraska and Solar companies made notable gains and the Indiana company, earning 18.23 per cent on the capital stock outstanding at the end of the year, receded only 0.5 per cent from its earning rate for 1923 and only 4.17 per cent below the rate in 1922 which was an excellent year.

The Solar increased its dividends from $10 to $15 a share on the $100 stock but the other companies maintained the 1923 rate, the Indiana company paying $2.50 per $25 a share and the Nebraska company $10 per $100 share.

The Indiana company represents all divisions of the oil industry but the Solar is engaged only in refining and the Nebraska company in marketing. Their statements, revealing strong positions of the three companies, come as an interesting surprise when it was expected that serious slump in returns might be reported. The latter condition seemed likely last year when the Standard Oil Co. of Kansas, a company in a position similar to the Solar, and the Atlantic Refining Co., an integrated corporation like the Standard of Indiana, suspended cash dividends on their common stock.

The Standard of Indiana netted after all charges including federal taxes, $40,788,868, equivalent to $4.55 per share or 18.23 per cent on the 8,950,250 shares outstanding at the end of the year. In 1923 the company netted $41,538,499, equivalent to $4.68 per share or 18.73 per cent on the 8,868,266 shares outstanding at the end of that year.

Earnings of the Indiana company since the dissolution follow:

Year	Net Profit	Rate
1924	$40,788,868	18.23%
1923	41,538,499	18.73%
1922	49,381,104	*22.4 %
1921	21,316,561	19.4 %
1920	43,335,977	**49.1 %
1919	25,742,394	85.8 %
1918	21,964,009	73.2 %
1917	25,828,694	86.1 %
1916	30,043,615	100.0 %
1915	15,898,376	52.9 %
1914	6,590,924	21.9 %
1913	14,687,696	48.9 %
1912	13,994,648	46.6 %

*After 100% stock dividend.
**After 150% stock dividend.

(Continued on page 62)

Consolidated income accounts of Standard of Indiana compare:

	1924	1923	1922	1921	1920
Net earnings*	$ 46,088,869	$ 46,938,499	$ 55,881,104	$ 23,288,348	$ 61,377,803
Tax reserve	5,300,000	5,400,000	6,500,000	2,000,000	20,404,319
Net profit	$ 40,788,869	$ 41,538,499	$ 49,381,104	$ 21,288,348	$ 40,973,484
Dividends	22,284,751	22,106,839	17,453,994	15,686,124	9,116,678
Surplus	$ 18,504,118	$ 19,431,660	$ 31,927,110	$ 5,602,224	$ 31,856,806

*After depreciation.

Consolidated balance sheets of Standard of Indiana as of Dec. 31 follow:

	1924	1923	1922	1921	1920
ASSETS					
Plant, equipment	$139,639,741	$131,427,167	$122,944,735	$117,046,483	$ 96,761,465
Depreciation	40,031,323	34,821,321	29,809,566	25,342,780	19,788,794
Net valuation	$ 99,608,418	$ 96,605,846	$ 93,135,169	$ 91,703,703	$ 76,972,671
Real estate	29,401,932	24,796,043	19,110,028	15,747,183	14,262,545
Personal property	3,075,398	4,768,435	4,945,553	7,187,943	6,176,321
Securities, invest	138,825,264	138,779,667	122,595,207	117,285,724	49,643,326
Accounts receivable	18,622,291	13,512,124	11,526,007	8,836,056	14,350,188
Merchandise	50,660,382	46,241,822	52,335,293	55,326,799	72,093,143
Cash	21,288,275	14,230,677	15,141,946	9,588,434	4,136,464
Total	$361,481,961	$338,934,613	$318,789,203	$305,675,842	$237,634,658
LIABILITIES					
Capital stock	$223,756,258	$221,706,668	$220,181,638	$107,360,455	$ 88,038,313
Bonds	46,000	79,500	93,500	110,500	184,000
Accounts payable	18,254,272	19,843,122	9,541,595	24,123,057	13,177,215
Reserves	10,873,343	9,901,313	19,940,120	14,469,206	20,404,319
Capital liabilities	.....	.....	.....	16,389,914	.....
Capital surplus	59,379,968	56,519,062	54,877,960	50,995,494	29,205,820
Earned surplus	49,172,119	30,884,948	14,154,390	92,227,216	86,624,991
Total	$361,481,961	$338,934,613	$318,789,203	$305,675,842	$237,634,658

Income accounts of Solar Refining Co. for last five years follow:

	1924	1923	1922	1921	1920
*Net after all charges	$ 685,128	$ 496,481	$ 879,227	†$ 303,647	$ 1,698,206
Dividends	600,000	400,000	300,000	200,000	1,000,000
Surplus	$ 85,128	$ 96,481	$ 579,227	‡$ 503,647	$ 698,206
Previous surplus	3,284,258	3,187,777	4,608,550	5,112,197	4,413,991
Contingent reserve	2,500,000	.....	.....	.....	.....
Stock dividend	.....	.....	2,000,000	.....	.....
New surplus	$ 869,387	$ 3,284,258	$ 3,187,777	$ 4,608,550	$ 5,112,197

*After federal taxes. †Loss. ‡Deficit.

Balance sheets as of Dec. 31 for last five years compare:

	1924	1923	1922	1921	1920
ASSETS					
Real estate	$ 63,872	$ 63,872	$ 64,422	$ 64,422	$ 45,457
Plant less depreciation	2,230,616	3,317,709	2,162,582	1,736,705	1,585,099
Inventory	1,137,652	1,835,832	1,446,973	2,024,963	2,399,331
Insurance reserve	.....	253,705	253,705	243,911	242,319
Accounts receivable	817,171	351,639	548,693	244,269	1,247,317
Cash, other investments	3,552,652	2,849,427	3,155,294	2,718,218	2,996,723
Total	$ 7,801,963	$ 7,672,184	$ 7,631,669	$ 7,032,488	$ 8,516,241
LIABILITIES					
Capital stock	$ 4,000,000	$ 4,000,000	$ 4,000,000	$ 2,000,000	$ 2,000,000
Accounts payable	365,587	319,766	358,541	423,938	618,355
Federal taxes	66,989	68,159	85,351	.....	785,689
Contingent reserve	2,500,000	.....	.....	.....	.....
Surplus	869,387	3,284,259	3,187,777	4,608,550	5,112,197
Total	$ 7,801,963	$ 7,672,184	$ 7,631,669	$ 7,032,488	$ 8,516,241

Balance sheets of the Standard of Nebraska as of Dec. 31 for the last five years compare:

	1924	1923	1922	1921	1920
ASSETS					
Plant less depreciation	$ 2,735,662	$ 2,754,420	$ 2,505,269	$ 2,261,838	$ 1,931,729
Merchandise	1,014,569	931,502	1,029,446	1,179,973	1,775,339
Cash	867,239	489,155	1,127,537	1,093,192	1,063,638
Accounts receivable	361,597	351,150	385,035	420,706	649,683
Investments	1,427,907	1,437,538	685,410	428,971	425,749
Total	$ 6,406,974	$ 5,963,765	$ 5,732,697	$ 5,384,680	$ 5,846,138
LIABILITIES					
Capital stock	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 1,000,000
Accounts payable	363,996	408,845	421,379	342,512	547,098
Reserves, taxes, etc	111,108	90,962	118,450	94,396	518,574
Surplus	2,931,870	2,463,958	2,192,868	1,947,772	3,780,466
Total	$ 6,406,974	$ 5,963,765	$ 5,732,697	$ 5,384,680	$ 5,846,138

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Financial Statements

(Continued from page 60)

Since the dissolution, the Indiana company has paid out $136,448,387 in cash dividends and stock having a par value of $181,360,455. In the 10 years previous to the dissolution the company paid out $73,242,675 in dividends out of net earnings of approximately $86,000,000.

The balance sheet of the Indiana company as of Dec. 31, 1924, shows a strengthening of its financial position during the year. On that date current assets were $90,570,949 and current liabilities $23,554,273 as against current assets of $73,984,623 and current liabilities of $24,243,122 on Dec. 31, 1923. Accounts payable were reduced about $1,500,000 during the year. Accounts receivable were increased approximately $5,000,000, inventories more than $4,000,000 and cash more than $7,000,000.

The report of the company does not separate the amount carried on its books as investments in the various major subsidiaries. "Investments in Other Companies" is carried at $126,710,958. This includes the ownership of the Midwest Refining Co. and Dixie Oil Co. and 50 per cent interest in each of the Sinclair Pipe Line Co. and Sinclair Crude Oil Purchasing Co.

Explanation Not Made

Likewise, no indication is given as to the way the inventory is carried. It is assumed, however, in view of the conservative financial policy of the company, that all refined and crude oils are carried at cost or the market, whichever was the lower. No report on inventory adjustment is made.

Working capital on Dec. 31 was $67,016,676 as compared with $49,741,501 at the end of the preceding year and $62,961,651 on Dec. 31, 1922.

Solar Refining Co. netted $685,128 last year or $17.13 per $100 share. This was considerably better than the previous year when the net per share was $12.41 but not so good as 1922 when the average was $21.74. Current assets on Dec. 31, 1924, were $5,507,475 and current liabilities $432,576, leaving working capital of $5,074,899. On Dec. 31, 1923, current assets were $5,036,898 and current liabilities $387,925, leaving working capital of $4,648,973.

The Standard of Nebraska netted $767,911, equivalent to $25.95 per $100 share. In 1923 this company's earning were $19.03 per share and in 1922 $28.13 per share. Considering the competition the company received last year in its chief marketing centers, its report shows up unusually well but, like the Standard of Indiana and Solar, fails to show whether larger profits were the result of a much larger gross business or of greater economies.

Nebraska company's current assets at the end of 1924 totaled $3,671,312 and current liabilities were $475,104, leaving working capital of $3,196,208. At end of 1923, current assets were $3,209,346, current liabilities $499,807 and working capital $2,709,539.

S. Dayton Pool Making 12,000 Barrels

HOUSTON, March 16.—With completion of the ninth well on the South Dayton salt dome, near Liberty, Liberty county, this Gulf Coastal pool is now producing more than 12,000 barrels daily of A grade Gulf Coastal crude. The latest completion is Gulf Production Co.'s No. 1 Vandeventer located 1800 feet south of the farthest south producing well of the Triginal group. It started off making 3500 barrels daily at total depth of 3640 feet.

Edging out from wells of the original group Humble Oil & Refining Co. completed No. 1 Harrison-Pickett for 1500 barrels daily at the 3600-foot level and Hoffer Oil Corp. brought in No. 1 Smith for 1000 barrels initial production at 3690 feet. Other South Dayton wells have been reported previously.

From the discovery well on the northeast flank is a distance of approximately ½ mile, in which territory 60 to 75 wells will be eventually drilled. The Gulf's completion also indicates the extension of productive ground farther south along the flank of the dome. Earlier estimates of 25,000 barrels maximum daily production for South Dayton are materially increased because of the Gulf well and it would not be surprising if this production level should be doubled when the field's high mark is reached.

Salt Stops Trouble With Frozen Lead Lines

CASPER, WYO., March 12.—A good headline on this story would be "Teapot Dome Wells Salted, Official Admits." In view of the present argument in Cheyenne over Teapot, it is just as well, however, to call attention to this phase of field practice in some other language. The fact is, however, that some of the wells were "salted," and in the following manner, according to W. L. Connelly, vice-president of the Mammoth Oil Co.

During the winter past considerable trouble was had with frozen lead lines in the Teapot field. Some of the wells make a small quantity of water—four or five barrels a day. About the time this water would hit the tee on the line it would freeze and all told it was quite expensive to keep them thawed in weather 25 degrees below zero.

This water is fresh. It occurred to Mr. Connelly or O. E. Dougherty, the general manager or both of them that if that were only salt water the freezing point would not be so high. Therefore, why not make salt water of it?

Each of the troublesome wells was given treatment consisting of 50 pounds of salt, with some water poured into the hole to wash it down. Benefits were immediately realized and by renewing the dose about once a month no further trouble was had with frozen lead lines. All told, it saved a lot of money.

4

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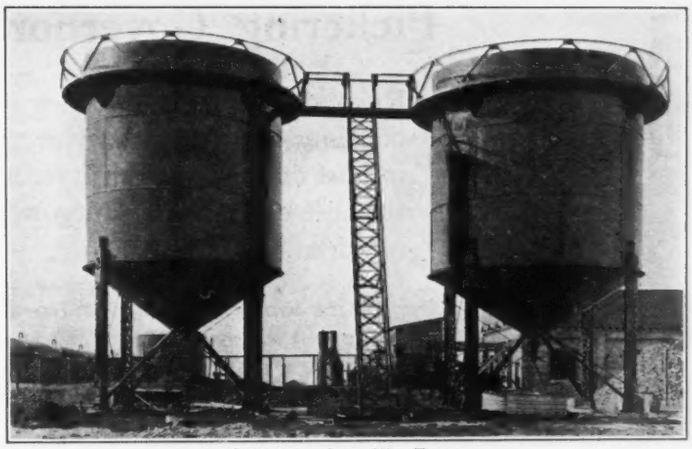

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Send for our Oil Tank Catalog No. 76

Pittsburgh-Des Moines Steel Co.

876 Curry Bldg.,, Pittsburgh, Pa.

976 Tuttle St., Des Moines, Iowa

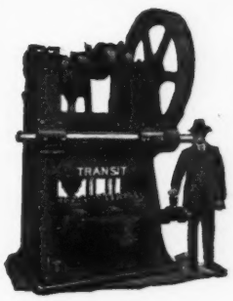
376 Rialto Bldg.,, San Francisco, Cal.

1276 Praetorian Bldg., Dallas, Tex.

PITTSBURGH DES MOINES TANKS

PITTSBURGH
DES MOINES

TRANSIT PUMPS



Standard
PIPE LINE, REFINERY, FIELD
Pumps

National Transit Pump & Machine Co.
OIL CITY, PA.

District Offices: New York, Philadelphia, Tulsa, Cleveland, Pittsburgh, Houston and Denver

Pickering Governors—

Ruggedly constructed, they will continue in ordinary service, day in and day out, yet with reserve to meet extra heavy duty when required.

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THE PICKERING GOVERNOR CO.
PORTLAND, CONN.

The Cross Cracking Process

The truth about cracking residual fuel oil is that this can best be accomplished by first taking from it the stock that is worth cracking and mixing the heavy, yield-reducing, coke-forming portion with the fuel oil from the cracking operation, where it belongs.

The M. W. Kellogg Co,

90 West St.,
New York City

Branch Offices:

700 Baltimore Ave., Kansas City, Mo.
19th & Harrison Streets, San Francisco, Cal.
304 Lane Mortgage Building, Los Angeles, Cal.

Magnolia Pipe Line Runs For Jan. and Feb.

DALLAS, March 12.—The Magnolia Petroleum Company, pipeline department, announces from Dallas headquarters the following crude oil runs for February, which are shown in comparison with January:

	January	February
Hewitt crude ...	113,818.84	99,750.92
Healdton	191,576.96	188,368.62
Cushing	131,959.28	120,465.61
Yale	152,973.31	144,212.83
Cement	25,989.86	24,113.79
Duncan	56,960.27	55,934.46
Augusta, Kan. ..	31,807.01	29,684.03
Walters, Beaver Creek .	9,190.73	8,972.06
Bristow	6,876.19	355.84
Burbank	None	None
Wewoka	425,925.51	235,156.73
Total Okla.-Kan..	1,147,077.96	907,014.89
Thrall	1,711.25	1,111.28
Electra, Burkburnett ..	241,135.27	203,015.79
Henrietta	4,180.81	4,545.23
Corsicana, heavy	9,221.28	11,031.84
Corsicana, light..	48,333.44	25,002.53
Comanche (Desdemona) ..	37,068.94	35,253.07
Olden (Ranger) .	22,188.79	20,423.30
Stephens county.	26,488.35	25,299.87
Coleman county .	593.86	506.26
Mirando	50,864.22	55,204.51
Mexia	132,543.33	157,517.21
Luling	334,753.78	283,644.91
Total Texas.....	909,083.32	822,556.10
Haynesville	8,897.15	8,020.74
Bull Bayou	18,314.37	16,888.53
Total Louisiana .	27,211.52	24,909.27
El Dorado, light.	40,290.02	41,123.83
East El Dorado .	2,943.25	2,407.98
Total Arkansas .	43,233.27	43,531.81
Grand Total	**2,126,606.07**	**1,798,011.07**

Texas

Month of February		Daily Av.
Wilbarger and Wichita counties, runs	203,015.79	7,250.56
Shipments	281,745.15	10,062.32
Petrolia, runs	4,545.23	162.32
Shipments	4,758.26	169.93
Eastland and Stephens counties, runs	80,976.24	2,892.00
Shipments	None	None

Total stock 2,585,117.77, North Central Texas field.

Oklahoma-Kansas

Report for Feb., 1925		Daily Av.
Runs	907,014.89	32,393.38
Shipments	1,276,145.53	45,576.62
Stocks	8,702,580.15	

TULSA.—Eggleston Smith, consulting petroleum geologist of New York, formerly with the Whitehall Petroleum Corp., in Algeria, is spending a few days in Tulsa. From here he will go to Houston to supervise trial on a drilling well of his new invention, an automatic bit feed for rotary outfits. The Rycade Oil Corp. will try out the new device.

TULSA.—The special technical committee of the American Petroleum Institute will meet at the William Penn hotel at Pittsburgh on April 1, to discuss vapor tension tests and shipping regulations on gasoline. Dr. R. P. Anderson, technologist for the A. P. I. is chairman of the committee.

TULSA.—H. C. Blake, president of the Foos Gas Engine Co., Springfield, Ohio, has been in Tulsa during the past week.

Oklahoma

Natural Gasoline-Blends

64-66 450 E. P.
L. O. Carter Co., Tulsa, Okla.

Burning Oils

Pennsylvania

45 Water White Kerosene
Bradford Oil Refg. Co., Bradford, Pa.
Butler County Oil Rfg. Co., Bruin, Pa.
Carnegie Refg. Co., Carnegie, Pa.
Emery Mfg. Co., Bradford, Pa.
Continental Refining Co., Oil City, Pa.
Empire Oil & Grease Co., Inc., Oil City, Pa.
Independent Refining Co., Oil City, Pa.
Lucinda Refining Co., Lucinda, Pa.
McKean County Refining Co., Bradford, Pa.
Mutual Refg. Co., Warren, Pa.

46 Water White Kerosene
Emery Mfg. Co., Bradford, Pa.
McKean County Refining Co., Bradford, Pa.
Mutual Refg. Co., Warren, Pa.

47 Water White Kerosene
Empire Oil & Grease Co., Inc., Oil City, Pa.
McKean County Refining Co., Bradford, Pa.

North Louisiana

41-43 Water White Kerosene
Caddo Central Oil & Refining Co., Shreveport, La.

Kentucky

42-44 Water White Kerosene
Great Southern Refining Co., Lexington, Ky.
Pgh. Oil & Refg. Co., Pittsburgh, Pa.

43-45 Water White Kerosene
Ashland Refining Co., Ashland, Ky.

Oklahoma

41-43 Water White Kerosene
Bell Oil & Gas Co., Tulsa, Okla.
Lubrite Refining Co., St. Louis, Mo.
Imperial Oil Mktg. Co., Tulsa, Okla.
Roxana Petroleum Corp., St. Louis, Mo.
Tidal Refg. Co., Tulsa, Okla.

42-44 Water White Kerosene
Imperial Oil Mktg. Co., Tulsa, Okla.

Arkansas

42-44 Water White Kerosene
Imperial Oil Mktg. Co., Tulsa, Okla.

Furnace Oil

Pennsylvania

41-43 Off Prime White
West Penn Oil Co., Warren, Pa.

Neutral Oils

Pennsylvania

200 Vis. No. 3 Asso. Filt.
Butler County Oil Refg. Co., Bruin, Pa.
Emery Mfg. Co., Bradford, Pa.
Empire Oil & Grease Co., Inc., Oil City, Pa.
Independent Refining Co., Oil City, Pa.
Kendall Refining Co., Bradford, Pa.
Pennsylvania Oil Products Refining Co., Warren, Pa.
Seneca Oil Works, Warren, Pa.

180 Vis. No. 3 Asso. Filt.
Emery Mfg. Co., Bradford, Pa.
Seneca Oil Works, Warren, Pa.

150 Vis. No. 3 Asso. Filt.
Emery Mfg. Co., Bradford, Pa.
Butler County Oil Refg. Co., Bruin, Pa.
Independent Refining Co., Oil City, Pa.
Pennsylvania Oil Products Refining Co., Warren, Pa.
Seneca Oil Works, Warren, Pa.

150 Vis. No. 4½ Filt. (Red)
Crystal Oil Works, Oil City, Pa.

Ohio

90 Vis. at 100° F. No. 2 Color (Pale)
Craig Oil Co., Toledo, O.

200 Vis. at 100° F. No. 3 Color (Pale)
Craig Oil Co., Toledo, O.

Oklahoma

200 Vis. No. 3 color
Bell Oil & Gas Co., Tulsa, Okla.

Cylinder Oils

Pennsylvania

600 Steam Refined
Bradford Oil Refg. Co., Bradford, Pa.
Butler County Oil Refg. Co., Bruin, Pa
Crystal Oil Works, Oil City, Pa.
Emery Mfg. Co., Bradford, Pa.
Independent Refining Co., Oil City, Pa.
Kendall Refining Co., Bradford, Pa.
Lucinda Refining Co., Lucinda, Pa.

635 Steam Refined
Bradford Oil Refg. Co., Bradford, Pa.
Emery Mfg. Co., Bradford, Pa.

650 Steam Refined
Bradford Oil Refg. Co., Bradford, Pa.
Butler County Oil Refg. Co., Bruin, Pa.
Emery Mfg. Co., Bradford, Pa.
McKean County Refining Co., Bradford, Pa.
Seneca Oil Works, Warren, Pa.

600 Flash
Bradford Oil Refg. Co., Bradford, Pa.
Butler County Oil Refg. Co., Bruin, Pa.
Emery Mfg. Co., Bradford, Pa.
Independent Refining Co., Oil City, Pa.
McKean County Refining Co., Bradford, Pa.
Waverly Oil Works, Pittsburgh, Pa.

600 Warren E.
Butler County Oil Refg. Co., Bruin, Pa.
Pennsylvania Oil Products Refining Co., Warren, Pa.

600 Oil City E.
Butler County Oil Refg. Co., Bruin, Pa.
Independent Refining Co., Oil City, Pa.
Pennsylvania Oil Products Refining Co., Warren, Pa.

600 Filtered D.
Butler County Oil Refg. Co., Bruin, Pa.
Pennsylvania Oil Products Refining Co., Warren, Pa.

Cold Test Stock (bright filtered)
Carnegie Refg. Co., Carnegie, Pa.
Kendall Refining Co., Bradford, Pa.
Mutual Refg. Co., Warren, Pa.
Pennsylvania Oil Products Refining Co., Warren, Pa.
Warr-Penn Refining Co., Warren, Pa.

Cold Test Stock (dark filtered)
Carnegie Refg. Co. Carnegie, Pa.
Pennsylvania Oil Products Refining Co., Warren, Pa
Warr-Penn Refining Co., Warren, Pa.

Black Oil
Emery Mfg. Co., Bradford, Pa.

Motor Oils

Pennsylvania—100% Pure

Butler County Oil Refg. Co., Bruin, Pa.
Continental Refining Co., Oil City, Pa.
Empire Oil & Grease Co., Inc., Oil City, Pa.
Independent Refining Co., Oil City, Pa.
Seneca Oil Works, Warren, Pa.

Ohio

Craig Oil Co., Toledo, O.

Wax Distillate

Pennsylvania

34-34½ Gravity
Bradford Oil Refg. Co., Bradford, Pa.

Wax

Pennsylvania

122-124 White Crude Scale
Butler County Oil Refg. Co., Bruin, Pa.
Emery Mfg. Co., Bradford, Pa.
Independent Refining Co., Oil City, Pa.
Kendall Refining Co., Bradford, Pa.

128-130 Refined
Waverly Oil Works Co., Pittsburgh, Pa.

124-126 Crude Scale (off white)
Crystal Oil Works, Oil City, Pa.

Oklahoma

124-126 White Crude Scale
Bell Oil & Gas Co., Tulsa, Okla.

Fuel Oil

Pennsylvania

36-40 Fuel Oil
Bradford Oil Refg. Co., Bradford, Pa.
Carnegie Refg. Co. Carnegie, Pa.
Emery Mfg. Co., Bradford, Pa.
Lucinda Refining Co., Lucinda, Pa.
McKean County Refining Co., Bradford, Pa.

30-34 Fuel Oil
Butler County Oil Refg. Co., Bruin, Pa.
Independent Refining Co., Oil City, Pa.
Mutual Refg. Co., Warren, Pa

Oklahoma

26-30 Fuel Oil
Bolene Refining Co., Enid, Okla.

30-32 Fuel Oil
Bolene Refining Co., Enid, Okla.

38-40 Straw Distillate
Bolene Refining Co., Enid, Okla.

32-36 Gas Oil
Bolene Refining Co., Enid, Okla.
L. O. Carter Co., Tulsa, Okla.
Roxana Petroleum Corp., St. Louis, Mo.

22-24 Fuel Oil
L. O. Carter Co., Tulsa, Okla.

North Louisiana

18-22 Fuel Oil
Caddo Central Oil & Refining Co., Shreveport, La.

North Texas

38-40 Distillate-Prime White
Noble Oil & Gas Co., Tulsa, Okla.

Kentucky

38-40 Gas Oil (light)
Ashland Refining Co., Ashland, Ky.

34-38 Gas Oil (light)
Great Southern Refining Co., Lexington, Ky.

34-38 Gas Oil (dark)
Ashland Refining Co., Ashland, Ky.
Great Southern Refining Co., Lexington, Ky.

30-32 Fuel Oil
Ashland Refining Co., Ashland, Ky.

28-30 Fuel Oil
Ashland Refining Co., Ashland, Ky.

24-26 Fuel Oil
Ashland Refining Co., Ashland, Ky.
Great Southern Refining Co., Lexington, Ky.

IN THE MAILBAG

Immediate and Prompt Shipment

WHAT is the accepted definition by the oil business of "immediate" and "prompt" shipment, asks a manufacturing company at Peoria, Ill., which is a big consumer of gasoline.

The rules governing trade in petroleum and its products as adopted by the National Petroleum Marketers Association and the Western Petroleum Refiners Association in Chicago, in 1921, define these two terms as follows:

"In words 'immediate' and 'prompt' when referring to shipment, shall mean 'immediate' within five working days; 'prompt' within ten working days. In all cases the date stamp of the initial carriers as shown on the bill of lading shall be evidence of the date of shipment. Where shipment is for specified date, shipment within two days, either before or after said date, shall be satisfactory."

Blending Castor and Mineral Oil

A READER writes in to ask how to compound castor oil with a mineral oil.

A good many companies have developed formulas for making such a compounded oil for various uses, particularly for farm machinery lubrication where the bearings are loose and there is a great tendency for the lubricant to drip out and leave the bearings and moving parts unprotected. Castor-mineral oil is good for such purposes because of its superior tendency to stick to the surfaces it is intended to lubricate.

Such companies usually guard their formulas carefully and it is doubtful if any of them would be willing to give up such information.

But there is a book that gives considerable general information on this subject. This book states that castor oil and petroleum oil are not miscible except in the presence of a third oil, usually a fixed oil. Rape oil is generally the vehicle used.

"When Solar Red mineral oil and castor oil are mixed using refined rape oil as a vehicle, the following proportions are found to give a mixture which shows no separation on standing:

"10 per cent castor oil
"40 per cent refined rape oil
"50 per cent Solar Red."

The same article goes on to say, however, that to be miscible, castor oil must be heated at about 560 F. until it loses about five or six per cent of its weight, when it can be mixed with mineral oil.

Writes Prescription for Oil Industry

MR. K. E. ROGERS, of Brooklyn, sends in the following which he believes sums up the needs of the Independent oil industry. Doubtless you'll agree with us he embraces a pretty comprehensive program. Any great progress as an industry along one or two of the avenues he points out would make a distinct improvement in the business. What he suggests though is what many companies are working individually along their own lines and by their own methods:

"What the various Independent oil companies need is more money spent in the technical development and analysis of their personnel; more money spent in the reducing of operating expenses by the installation of up-to-date methods; more money spent in gaining the good will of the people and less money spent in cut-throat competition."

TEACHER! TEACHER!

Baron & Huot Give Scholars Trip

KANKAKEE, ILL., March 13.—An opportunity for advancement in learning has been furnished free of charge to school children of northern Illinois by J. R. Baron, president and E. Huot, vice president and general manager of the Baron & Huot Oil Co., marketer. A chaperoned pilgrimage to the capitol at Springfield to view state institutions, the capitol building, legislative halls and the privilege of visiting the home of Abraham Lincoln, whose early days were spent within the city, is interesting the parents and educators in that territory, and will gain a favorable position for the oil company as a result, according to C. B. Jewell, assistant general manager of the company.

THE EDITORS' VIEWPOINT

Employes Should Know the Industry

THE demand of every company in every industry is for men worthy of promotion. Strange as it may seem to the average employe few company executives ever find just the man they want for the next job higher up. They have to promote what they can find. These executives see in that job vaster possibilities than the average man they promote to it.

When the old Standard Oil Co. was dissolved a dozen years ago one member of the old guard at "26 Broadway" was quoted as saying that they were up against it for men to head the new ex-subsidiary companies and had to put in a lot of "office boys." Those offices boys seem to have done a right good job of it for the most part but the fact remains that this executive saw immense possibilities in the jobs, more than he saw ability in the men given them.

One of the great criticisms of executives of men they promote is their lack of knowledge of much beyond their immediate jobs, especially their ignorance of where the company fits into the oil industry and what the industry as a whole is like. They want men who can think intelligently of the whole industry and talk intelligently about it. Today most every company wants men who can talk to the man without his industry of its problems and its good points.

This has come to be one of the chief aims of public relations committees of all industries. In many lines special work has been done to get company employes to study their industry. Among the various stunts toward this end is furnishing material to the employes describing the current affairs of the industry and having the employes write essays on those points. To the best writers cash prizes are awarded. It's an idea oil companies could well use.

One oil company we know of has long been requiring its men who might be material for more important positions to study National Petroleum News and then stand oral examinations on what it has contained affecting the whole industry at company meetings.

"We want these men to be able to answer intelligently the questions our customers may ask regarding the oil industry," said one of this company's executives. "We want them to help put the industry in a good light to the public. We want them to be able to raise the customer's estimation for the company and above all we want them to get all the knowledge possible in their heads against the day when they may be higher employes so that they will be better able to serve the company.

"We know that National Petroleum News can give them a true picture of the whole industry as well as information on the immediate work they may be on. We know that the paper tells them in language they can understand not only about oil marketing but oil refining and oil producing. It gives them the general over-all knowledge which executives need."

Through the many hundreds of thousands of employes the oil industry can reach millions of the public most effectively. An employe that is sold on the industry as well as on his company is one of the best ambassadors of good will that the industry can send to the public.—W. C. P.

All the Public Needs is the Truth

WHILE the oil industry itself has been giving considerable thought and discussion to the problem of telling its story to the public and hesitating here and backing away there, fearful lest just the right impression not be given, isn't the story of the oil business being told every day, week and month of the year entirely outside the province of the industry itself particularly as organized for any such effort?

Where can you pick up a magazine now-a-days that doesn't have something in it reflecting some picture of the oil business to the public? Fiction stories about the business are much more common than they used to be.

If nothing else, almost any magazine carries from one to half a dozen page ads of oil companies themselves, telling about improvements in quality of lubricating oils, or better gasoline. The oil burner people tell the story of the added comforts to the householder through heating with oil. The oil stove makers tell of the convenience of kerosene for cooking. Several motion picture play have dragged in the oil business—to show how millionaires are made overnight.

Out of all this—to say nothing of what the daily papers carry in news and comment—the public is getting its impression of the oil business today, right at this moment. That impression would not be so very materially changed by any organized effort the business might make to tell its story.

The point is that the story of the business is being written today—whether we would will it so or not—by every man in the business, every company, every manufacturer of a commodity who talks superiority of oil over some other product. All these have a greater share in writing the current history of the business than they realize, and they cannot avoid the task.

Contemporary history is never as painstakingly accurate as that prepared later, in the light of facts rather than impressions. It will be interesting to see what some future Ida Tarbell writes about this period of the oil industry. The writer's idea is that the industry, by and large, will not be ashamed of it.—V. B. G.

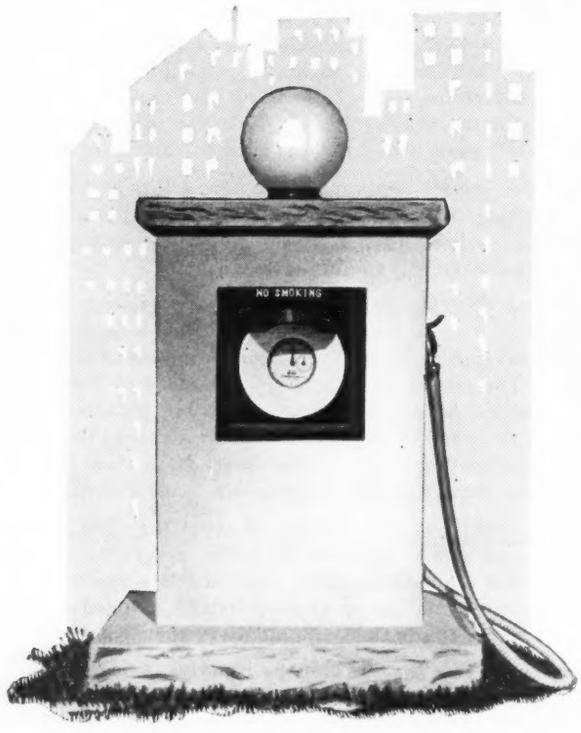
Beautify the Station Grounds

A FEW companies have discovered how much attractiveness can be added to their service station by flowers and shrubbery, and the cost is extremely moderate. For the same reason that a well lighted and attractive store gets more business than a dingy one, it is likely this beautifying of stations actually improves the trade at a station.

However, pleasing effects with flowers cannot be secured by scattering a few seeds here or setting out a few shrubs there. Certain plants will not do well around stations because of the peculiar conditions there. In every company, no matter how small, there is some individual who likes to fuss with flowers, who has the knack of getting the best out of them—and it is a knack, too. This is the time of year when gardening is in order. A company could well afford to pick out of its ranks a man with a hobby for gardening and give him the job of seeing that something is made of floral beautification at its stations.—V. B. G.

ERIE METER SYSTEMS

For Dispensing Gasoline



Meter Housings are Built to Harmonize with the Architecture of the Service Station Building

"The Meter Way Is The Better Way"

Because of

FASTER SERVICE—No Pumping. No Hose Draining.
GREATER ACCURACY—Measures Every Cubic Inch.
MORE SAFETY—Prevents Tank Overflowing.
GREATER GALLONAGE—Eliminates Usual 5 gal. Sales.
ATTRACTS ATTENTION—It's Different.
ECONOMICAL—No Power Plants Required.
ABSOLUTE RECORDS—Continuous Register on Meter.

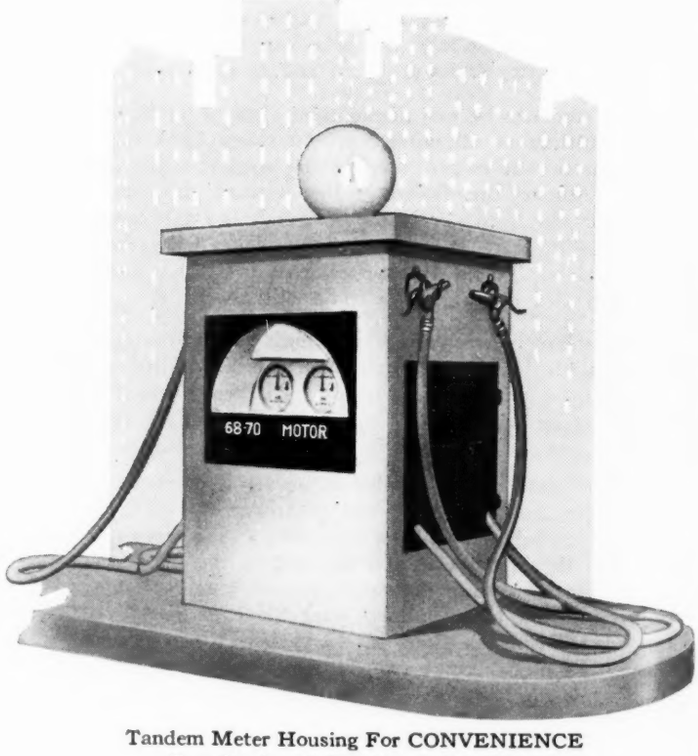
Before You Decide on Your Equipment Investigate the Most Up-to-date Method

It must be admitted
Most Pump Stations Look Alike

Do You Desire to Make Your New Service Station Different From Your Competitor's?

ERIE METER SYSTEMS WILL DO IT

The Distinctive Filling Service



Tandem Meter Housing For CONVENIENCE
Two Grades of Gasoline at One Stand

Catalog With Full Particulars Cheerfully Furnished on Request

OIL STATION EQUIPMENT AND ENGINEERING

ERIE SERVICE STATION EQUIPMENT CO.

COMMERCE BUILDING
ERIE, PENNA.

Some Territory Still Open For Representatives

Jobber Works Out Contract Form but Puts Eggs in Three Baskets

By Paul Truesdell
N. P. N. STAFF WRITER

CLEVELAND, March 13

AMONG the jobbers who attended the Cleveland convention of the National Petroleum Marketers Association last November and heard the marginal contract problem in general and the Nicholas proposed contract form in particular discussed, none was more interested than R. K. Shoolroy, secretary and treasurer of the Arrow Gasoline Corp. of Wooster, O.

Mr. Shoolroy got into jobbing four or five years ago, organizing the Arrow Gasoline Co. in Elyria, a small town not far from Cleveland. He got this business running well and then sold it out to the Columbia Refining Co., Cleveland concern, after which he organized another company of the same name in Wooster, where he is now doing business.

Mr. Shoolroy had been connected with various other industries before his venture into the oil business, he knew how contracts were made for other commodities and he had a bent for figures.

He had been doing considerable thinking himself on the subject and had covered a lot of paper with figures trying to work out a form of contract that would protect himself and the refiner and be fair to both.

Also, he realized that he had to find a form that the refiner would be willing to agree to in the first place and to live up to in shipments over the specified period.

His conclusion was that the spot refinery market is merely an incidental point in the chain that leads from the producer's well to the motorist's gasoline tank, and not a point on which contracts should be based.

Looking at it from the refiner's standpoint, Mr. Shoolroy says:

"The biggest element in the refiner's cost of operation is the cost of his raw material, his crude. Also, that is the most variable factor affecting his operations. Being the largest element in the refiner's costs, it is the fundamental one on which he should base his price in making a contract.

"And yet it is the one element which he cannot know in advance. On any ordinary form of marginal contract guaranteeing the jobber a margin under the tank wagon market in his territory, the refiner is shooting wholly in the dark as to what the cost of producing the gasoline he is contracting to furnish will be."

Traced Course of Prices

Mr. Shoolroy went into the question pretty thoroughly. He took the files of National Petroleum News and compiled the course of prices from January, 1919, to December, 1923, as follows:

1—Posted price of Mid-Continent crude.

2—Spot refinery price of U. S. Motor gasoline (formerly Navy).

3—The Ohio tank wagon price as posted by the Standard Oil Co. of Ohio, this state being the one in which he operates. He made a graph of these price curves which is published herewith.

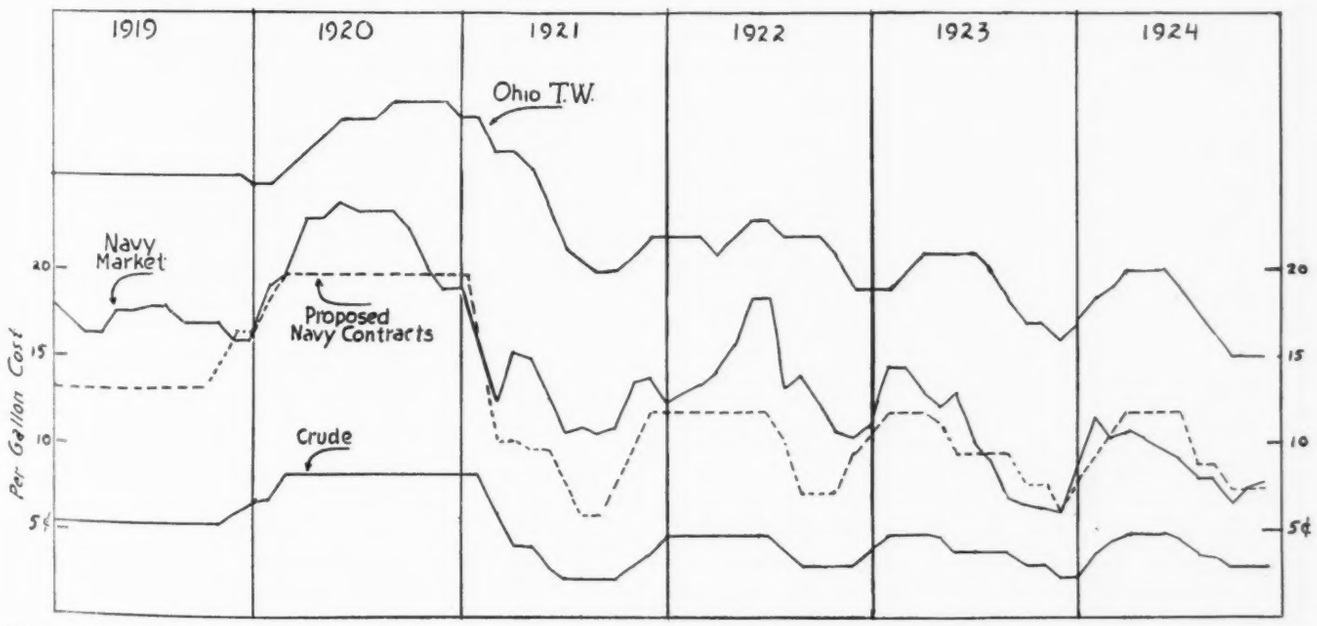
The result of his study was the discovery that there was no apparent relation whatever between the spot refinery price of gasoline and the Ohio tank wagon price but that there was a definite relation between the tank wagon price and the posted price of Mid-Continent crude.

Therefore, he felt that if the Standard of Ohio, his chief competitor, based the tank wagon price at which it sold directly on the posted price of crude, that he would come out all right if he did the same thing. This is probably more true in Ohio than in some other territories because the Mid-Continent field furnishes the only important source of crude supply that is open to the Standard of Ohio, whereas some of the other Standard companies are in position to take advantage of cheaper and better sources of supply from time to time and these refiners turned first to Mexican and later to California crude.

2½ Times Crude Price

So he worked out a contract which made 2½ times posted price of crude the basis for the price of gasoline that was to be delivered on the contract over the year. He felt sure that any contract with limiting factors or provisions for reciprocal refunds between refiner and jobber according to fluctuations of the market would prove a failure.

He went to Tulsa and conferred with some of the refiners. He found them sold on his form of contract. Taking 2½ times the posted price of crude as a



Mr. Shoolroy's graph showing the comparative course of crude, spot refinery and Ohio tank wagon prices over six years

basis, he figured out a sliding proportional scale to operate as the price of crude the refiner was buying went up or down.

His scale was like this:

Crude Price Bbl.	Gasoline Price On Contract
$ .38— .99	3 times crude
$1.00—1.75	2½ times crude
$1.75 up	2 3-8 times crude

Realizing that while the benefits to the refiner of such a contract were certain, it was not so certain that it would work, out as well for him as seemed to appear, he decided not to put all his eggs in one basket.

Coppers His Bets

He made a contract for 1,000,000 gallons over 1925 on this basis and having worked out his schedule carefully in line with his 175,000 gallons of storage capacity, he gave the refiner shipping instructions on every car.

He figured the million gallons as 40 per cent of his 1925 requirements, his business last year having run to about 2,000,000 gallons. Mr. Shoolroy had already contracted for 1,000,000 gallons on a contract guaranteeing him better than 4 cents under the Ohio tank wagon. He estimated his increase in business in 1925 will be 10 per cent over the volume of 1924 and this left him about 200,000 gallons on which he could play the spot market however it might develop.

He figures that he is sitting pretty for 1925.

Mr. Shoolroy's own size-up of the contract problem follows:

"In other industries, future contracts are made for finished materials based on the price of the raw material entering into that contract. If you wish to buy flour the mills would quote you based on the price of the grain for the particular month that you wish delivery.

"If you wish to buy pork or beef for future delivery, I am sure the packer would sell you based on the price of live stock at the time of delivery. If you were buying finished steel you can contract your future requirements based on the price of ingots or on the price of pig iron.

Crude Cost Chief Element

"In the oil industry the crude is the raw material and is the one item of uncertain cost. The costs of refining are fixed. Therefore, the sensible and logical thing to do is for the refiner to base his contracts with the jobber on the cost of his crude.

"One reason why there has been such a tremendous increase in the number of jobbers all over the country has been that refiners were willing to guarantee a jobber a fixed margin of profit under the selling price of his competitor. This margin of profit in many instances has been so large that the jobber could cut his price and still operate at a splendid profit. If his competitor (in this case I am referring to the Standard Oil Co.) made this cut, the jobber's contract gave him full protection at the lower price.

There are many contracts between jobbers and dealers in Ohio at from 1 cent to 2 cents per gallon under the established tank wagon price. If there can be anything more demoralizing to the price structure than this condition, then I do not know what it is.

"The oil jobbing business is the only one so far as I know that guarantees a man a profit regardless of conditions. In other words, on the old marginal contract, the refiner showed his willingness to hold the bag.

Comparison of Prices

"In the period from Jan. 1, 1918, to Nov. 1, 1924—almost six years—a study of the tank wagon market in relation to the spot tank crude market on motor gasoline showed there was no consistent relationship between the two, but during this entire period there never was a time when the combined profit of the refiner and the jobber was not fair, could it have been equitably divided.

"A study of the price of crude oil in relation to the tank wagon price of gasoline showed a consistent relationship through the entire period.

"Which goes to show that the oil companies which are a complete entity (that is engaged in all phases of the industry) are pretty sure of a profit all the time. A further study of the chart showed that on a rising market, the advance in the price of tank car gasoline preceded the rise in the price of crude, and this rise in gasoline prices was greater and more abrupt than the rise in crude; that on a declining market the decline in tank car prices of gasoline was faster and greater than the decline in crude, but in spite of this there was a consistent relationship between the two.

"For my figures over the period of 1918 to the present, I have taken the posted price of 38-gravity crude as posted by the Prairie Oil & Gas Co. and divided by 42 to determine the cost per gallon.

Computation Explained

"This cost I have multiplied by 2½ to arrive at the cost of Navy gasoline in group 3. In other words, for each month over the entire period I have arrived at the cost of gasoline by taking 2½ times the posted price and divided by 42.

"I have used the index 2½ because I understand that a 40 per cent yield is approximately what the average refiner can get from this gravity crude, where he is specializing on gasoline production. If this is the case then 40 per cent of the crude converted to gasoline pays the entire cost of the crude and 60 per cent which he may run to kerosene, gas oil or fuel oil, goes to cover his cost of operating and his profit.

"Over the period from 1918 to 1922, this kind of a contract would have been a wonderful thing for the jobber, as it would have enabled him to make a consistent profit throughout the entire period. During 1923 the average margin of profit to the jobber on this basis, would have been 5 1/10 cents based on the Ohio tank wagon price. This would have been about 6/10 cents under the prevailing average market on Navy gasoline over the year. During 1924 the average profit margin to an Ohio jobber would have been 4 4/10 cents whereas the open price permitted him 5 1/10 cents, using the Cleveland freight rate to determine this price.

"I firmly believe that a basis of this kind is a sound one for a jobber to contract on, and that over a period of time will net the jobber and refiner an equitable division of the profits, while the figures that I have given above are only submitted as an example, and are not put forth as being the correct ratio between the cost of gasoline and crude, they would have worked out fairer to the jobber and refiner over the past two years than any other proposition that I know.

"In presenting this proposition to refiners I have found a number of them willing to take on contracts on this basis.

"A year from now I will be better able to tell you whether I am still sold on the proposition."

Small Boom is on in Athens County

CLEVELAND, March 12.—Development of a Berea sand pool in Athens county, O., is described by J. W. Pickett, of the Flatiron Filling Station, Athens, as follows:

"Athens has a little oil boom all its own. In the late summer of 1924, oil was found about five miles south of here at Fisher Station, a little flag-stop on the K. & M. railway in Athens county. Excitement grew until now wells are being drilled within the city corporation.

"The Fisher Station pool promises to be a valuable one and is being developed rapidly. Today 42 producing wells are being operated. The oil is found in the Berea sand at an average depth of 1140 feet. There are eight companies operating at present, including the Pure Oil Co.

"Next to the Pure Oil Co., the Gross & Frebault Co., of Athens, O., has the largest acreage under lease, having approximately 1000 acres. This company has drilled five wells on two of their farms and all are producers.

"The Buckeye Pipe Line Co. has erected two large tanks and a pumping station in the field and are now laying about 22 miles of 4-inch line to their larger storage. They have been taking the output by means of gathering lines and a loading rack erected at the station and shipping by rail. It is expected that they will be pushing the oil through the new line not later than March 10."

LIMA, O.—N. D. Keys was elected vice president of the Solar Refining Co. here at the January meeting of the directors, and by virtue of that office he succeeds F. G. Borges as sales manager of the company.

Louisiana-Arkansas Operators Fight Cementing Process Patent

Staff Special

HOUSTON, March 13

THE Louisiana-Arkansas division of the Mid-Continent Oil & Gas Association has sent out a bulletin over the name of J. B. Elam, secretary, with regard to litigation in connection with the use of the Halliburton-Perkins oil well cementing process.

The association bulletin calls to the attention of members the fact that in the latter part of the year 1923 oil producers of Louisiana and Arkansas received notice from Erle P. Halliburton and the owners of the Perkins Oil Well Cementing Co. that they "were the owners of a patent on the plug system of cementing oil wells and that they would hold the producers liable for damages for the infringement of said patent."

It is pointed out in the bulletin that "at the time the original notices were received, this association appointed a committee to investigate the claim of Halliburton and the Perkins Oil Well Cementing Co., and that committee concluded from its investigations that the alleged patent was invalid and the association decided to resist the claim.

"On Saturday, February 14, 1925, the Halliburton Oil Well Cementing Co., and Erle P. Halliburton, filed a suit in the district court of the United States for the western district of Arkansas, Texarkana division, against the Standard Oil Co. of Louisiana, claiming $3,000,000 damages for the infringement of the alleged patent.

"Sometime during the year 1924 there was organized in Texas the Halliburton Oil Well Cementing Co., and it is this company that has brought suit.

"It is evident that the case filed at Texarkana is a test case, and the forerunner of similar suits against all oil producers and contractors in Arkansas and Louisiana. If the claim of the Halliburton Oil Well Cementing is sustained, it will mean that every oil producer and contractor will have to pay damages for the infringement of the alleged patent, and will be prohibited from using the method of cementing claimed to be patented. It will further mean that every oil producer will have to pay this Halliburton Oil Cementing Co. $250 for cementing each string of casing, and at the same time furnish the material and labor."

The association bulletin closes with the statement that "this suit is of vital interest to all our members" and this information is sent out for their information.

Patent Previously Upheld

Federal courts of the United States for the western district of Oklahoma and for the southern district of California have upheld the so-called Perkins patent. Operators in Louisiana and Arkansas, however, take the position that a process similar to that covered by the patent was in general use in the Shreveport territory prior to the time that A. A. Perkins and Edward Double filed application for a patent, Oct. 27, 1909, which was granted Dec. 12, 1911 as patent No. 1,011,484.

The Louisiana and Arkansas district operators take the position that the process was invented by J. B. McCann, of McCann & Harper, one of the oldest drilling firms in the Shreveport territory, and that it was first used on a well drilled near Vivian, La., in May, 1908, or thereabouts.

Attitude of Shreveport Operator

General attitude of Louisiana and Arkansas operators is said to be reflected in the following statement of J. R. Crawford, drilling contractor and oil producer, at a hearing held in Shreveport, in June 1924, in connection with an infringement suit then pending in the federal court of the United States for the southern district of California:

By Mr. Westall, counsel for the defendant:

"I might state.....that we take the position that this was common knowledge throughout the fields, and that it was a matter of common public interest that everybody knew about and talked about."

By Mr. Crawford:

"That statement is very true; those are the facts. We were all working at some way that we might be able to set pipe in Caddo parish and get a seat that would hold. For instance, we might drill in a well that would come in at three, or four, or five thousand barrels and the casing would test all right,—that is, prior to the cementing process —and the next thing we knew it was all water; and it was a matter of common interest to all of us drilling in the field to help each other out with anything we knew about to cure this condition.

"No one concealed or held back any information from the other that would help eliminate this condition. To the contrary, we were always glad to pass the word on to the other fellow. We spent a lot of time and a lot of money trying to learn to devise more ways and means by which we might be able to make a tight joint that would stay tight."

Partisans of the Louisiana-Arkansas operators threatened with infringement suits contend that McCann's idea was carried to California by drillers who went to participate in a development boom in the spring of 1909; and that the process, said to have been known to all operators in Louisiana, appeared as a novelty in California.

A comparison of the Perkins method and the Louisiana method reveals the following distinctions, which inferentially it will be up to the federal courts to take cognizance of in the suit against the Standard of Louisiana and any other operators hereafter sued:

Perkins Method

1. Free circulation of drilling mud established.
2. Inserting lower plug into casing.
3. No displacement of mud from casing.
4. Pumping cement on top of lower plug, and separated from mud by lower plug.
5. Inserting upper plug in casing to act as barrier between cement below it and water to be pumped above it.
6. Pumping water on top of upper plug.
7. When upper plug reaches lower plug cement is pumped outside casing.

Louisiana Method

1. Free circulation of drilling mud established.
2. No lower plug used.
3. Displacement of mud from casing.
4. Pouring cement into the casing, and contaminating the cement with the mud in the casing because no lower plug is used.
5. Inserting a plug, not for purpose of barrier, but to act as indicator to show when cement is pumped out of casing.
6. Pumping mud on top of plug.
7. When plug reaches bottom of casing, cement is pumped outside casing.

Claims of Patentees

The following are excerpts from the specifications of letters patent, filed by Perkins and Double, October 27, 1909, as shown by a copy of the patent papers:

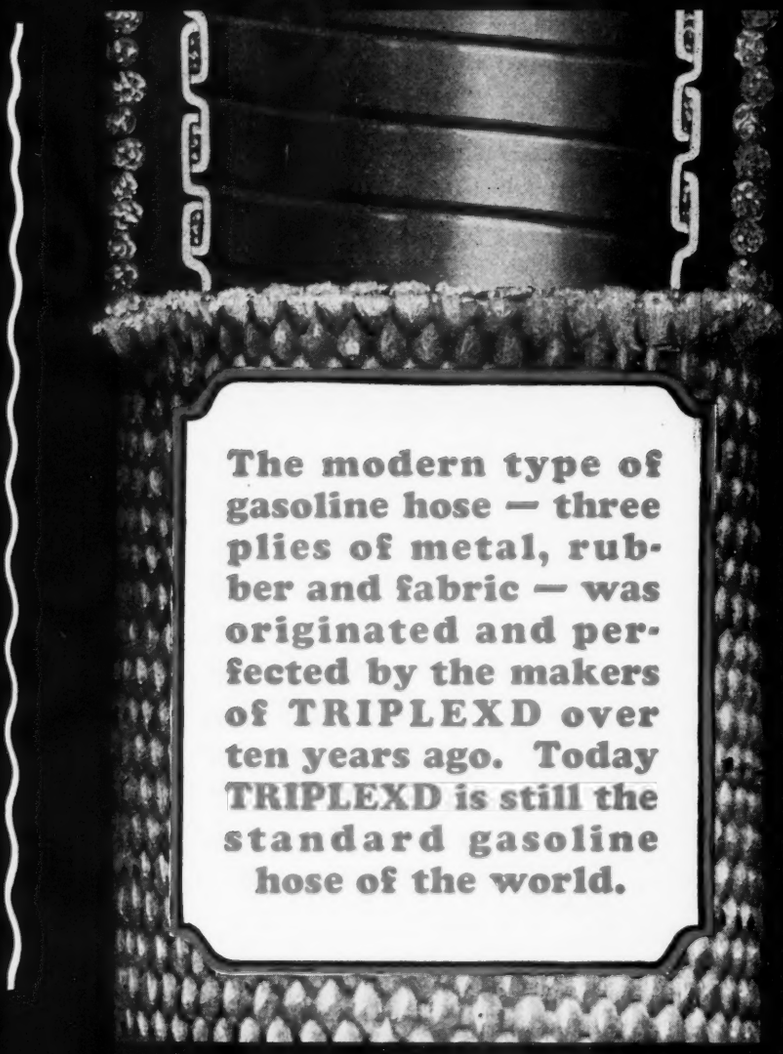
"Be it known that we, Almond A. Perkins and Edward Double, both citizens of the United States, residing at Los Angeles, in the county of Los Angeles and state of California, have invented a new and useful method of cementing oil wells, of which the following is a specification:

"Difficulty is often experienced by water entering oil wells between the ground and casing, and the main object of the present invention is to provide a method of cementing the wells whereby the water may be prevented from escaping from the ground into the well, and briefly the method consists of inserting a suitable cement in the space between the casing and the ground and filling such space with cement so that the water is completely excluded from the well, and the casing being surrounded by this sleeve of cement makes it impossible for water to get into the casing. We introduce the cement by hydraulic pressure, as will be hereinafter described in detail, and a further important object is to convey the cement into place without allowing the cement to come in contact with, or be diluted by, the water which is used in forcing the cement in.

CANON CITY, COLO.—High Test Gas & Oil Co. just completed its bulk station here, from which it sells direct to consumers. A pipe line has been laid from the railroad to the station. Station is of two tank car capacity and cost approximately $10,000, according to H. C. Sprinkle, owner.

BETHESDA, O.—Brown Supply Co. has completed its filling station and is preparing to deliver gas and oil by truck to its customers about April 1, according to S. E. Brown, manager.

TRIPLEXD



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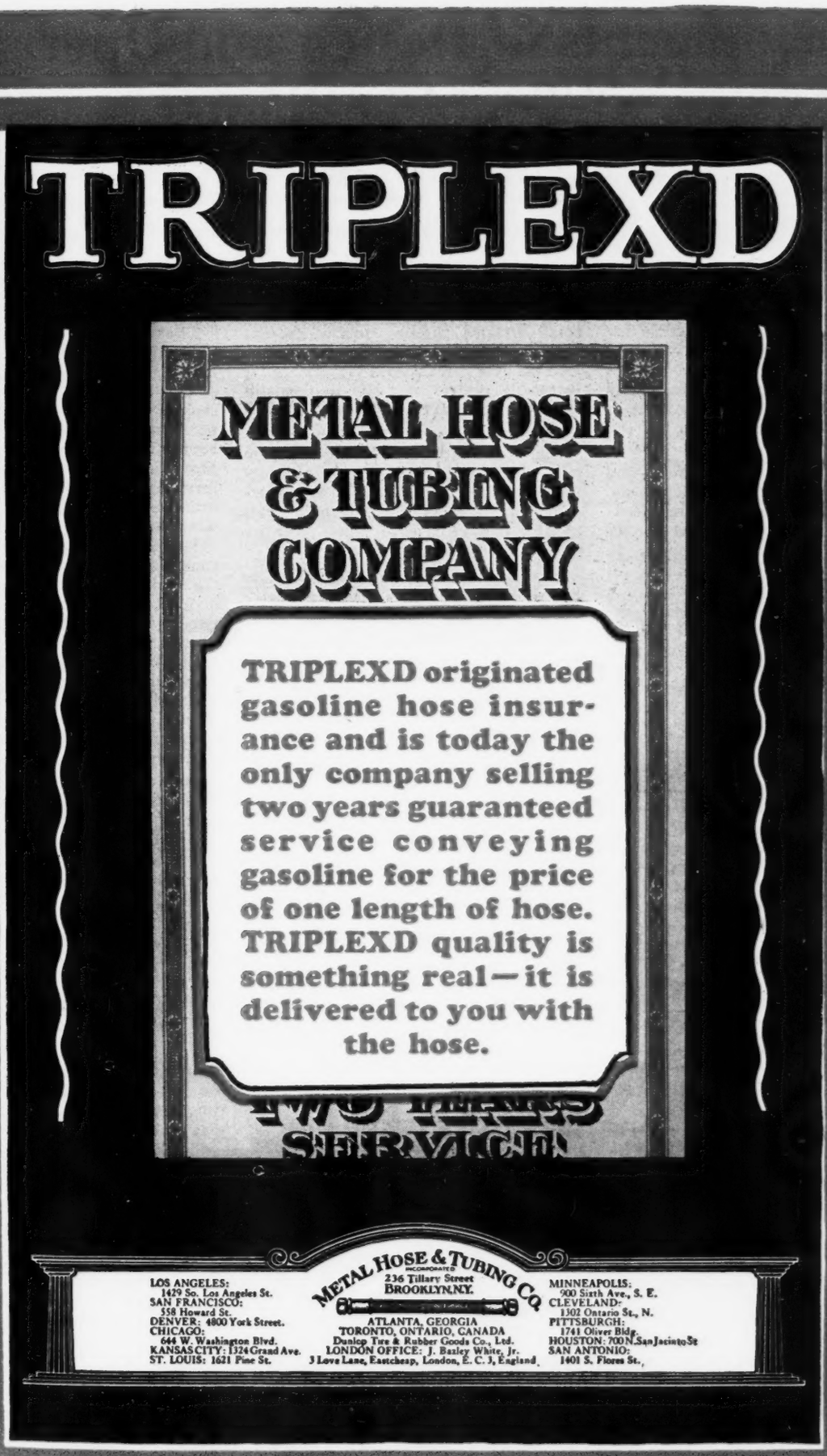
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Developments in Design and Operation of Topping Plants

By H. W. Camp,

General Superintendent, Empire Refineries Inc., Tulsa

Delivered at Western Petroleum Refiners Convention, Kansas City, March 4

THE refining of petroleum is to a large extent a question of thermodynamics and the economies to be hoped for in operation come for the most part from the conservation of heat—which is equivalent to fuel—either through proper fractionation and the reduction of rerunning, or through the more efficient untilization of the fuel, or both.

This effort to save heat—or fuel—and consequently to reduce operating costs, was one of the principal factors leading to the practically universal use of stills in continuous batteries in preference to the same number of stills operating by the older batch method. The addition of properly designed fractionating towers to continuous batteries has eliminated most of the rerunning and has thus effected marked economies, but the results obtained are still below the ideal.

That the results are not satisfactory can readily be seen when it is considered that shell stills, well set and operating under the best conditions in modern plants, seldom have thermal efficiencies better than 30 or 35 per cent and usually less; whereas, the furnace efficiencies in modern boiler plants, as representing the highest present results, are at least twice that.

Best Heat Transfer

Since the refining of oil depends on the transfer of heat into the oil and since the rate of transfer of heat between the fluids (one being the furnace gases in this case) is known to be best when the two fluids are divided into small streams passing counter current to each other with relatively high velocities over the separating surface, it is readily understood why a pipe still should be more efficient than a shell still.

Fig. 1. indicates one design of a pipe still which has proven highly satisfactory, although you are not to understand that I think it is the only type, as any one of several kinds will no doubt be equally efficient.

In this design the combustion chamber and tube chamber have been kept separate so that complete combustion may take place before the heated gases strike the relatively cold tubes. As you see, the entire setting is a red brick wall lined with fire brick with a layer of insulating brick between for heat conservation.

A central wall, Fig. 2, built wholly of fire brick and provided with proper expansion joints, divides the setting into two parts—a tube chamber and a combustion chamber. The furnace side is so proportioned that the fuel is completely consumed, leaving only the hot gases to pass over the tubes, around the baffles as indicated, Fig. 3, to the stack.

The oil enters at the lowest point and flows upward through the continuous pipe coil from the coldest to the hottest part of the furnace. Its flow, as you see, is as near counter current to the gases as is practical in a continuous coil.

The brick walls are strengthened and supported by steel buckstays, which extend above the brick work to serve as columns for supporting the beams carrying the flat arch, as well as supporting light trusses of the protective roof over the entire furnace. This protective roof is essential, unless the furnace is otherwise housed, as a flat arch must be protected from the weather.

I believe the sketches give a very comprehensive idea of such a still and the basic idea can be varied to suit individual cases. Some feel that one or two layers of tubes should be placed on the furnace side of the bridge wall, as a protection for the arch, while others argue just as strongly that no relatively cold surfaces, such as tubes, should come in contact with the gases in the furnace side or until combustion has been completed.

I have indicated cast iron tube sheets, insulated on the inner face with some sort of plastic fire clay. This gives an excellent type of construction and one more easily installed and probably more durable than obtained when using brick shapes to fit around the tubes.

While the flat arch construction is the only suitable construction for large furnaces, there have been very successful pipe stills built using the sprung arch.

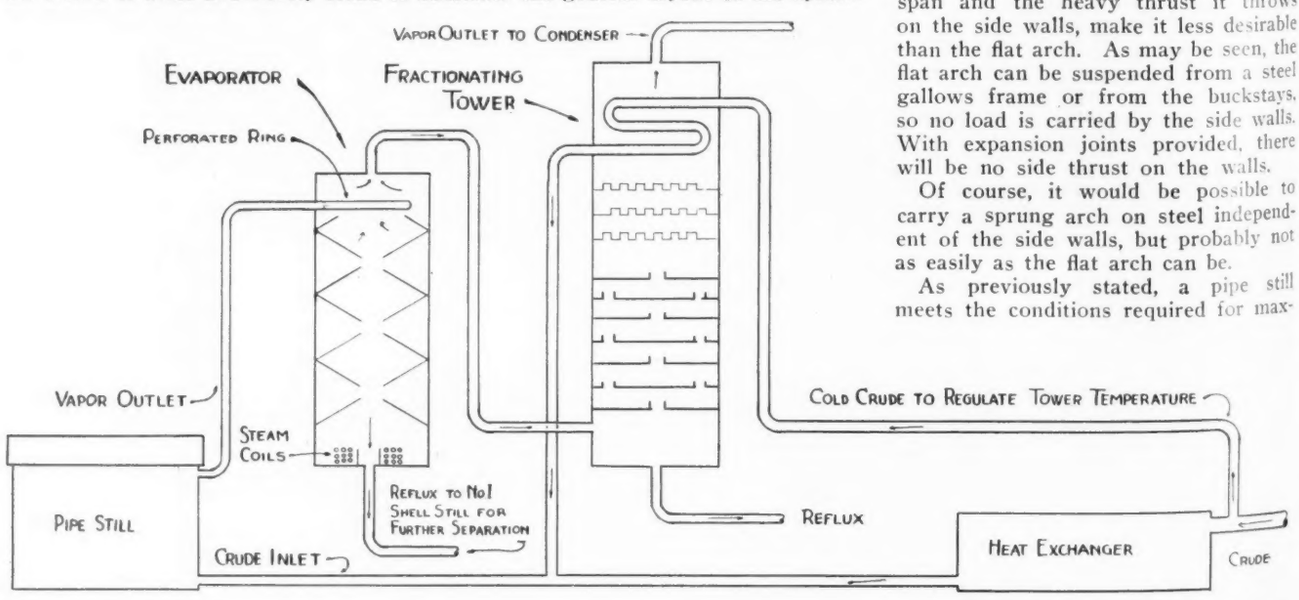
Sprung Arch Limitations

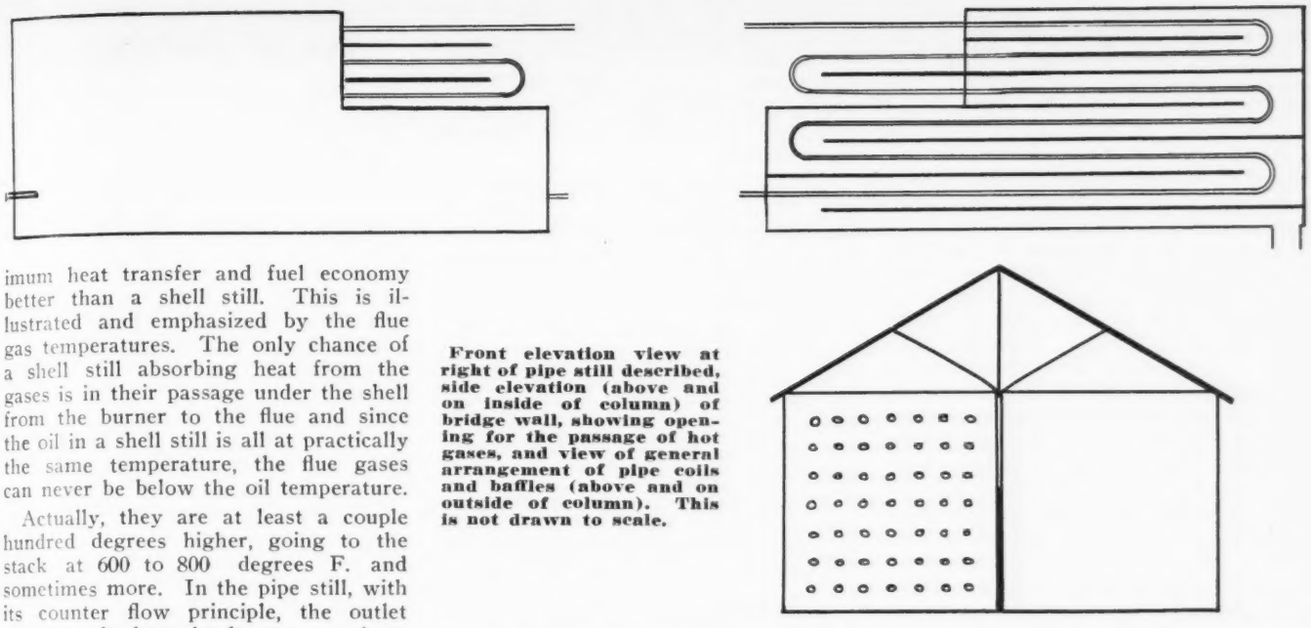
The limits of the sprung arch as to span and the heavy thrust it throws on the side walls, make it less desirable than the flat arch. As may be seen, the flat arch can be suspended from a steel gallows frame or from the buckstays, so no load is carried by the side walls. With expansion joints provided, there will be no side thrust on the walls.

Of course, it would be possible to carry a sprung arch on steel independent of the side walls, but probably not as easily as the flat arch can be.

As previously stated, a pipe still meets the conditions required for max-

General view of distilling and fractionating system described by Mr. Camp. This is not drawn to scale and merely seeks to illustrate the general layout of the system





Front elevation view at right of pipe still described, side elevation (above and on inside of column) of bridge wall, showing opening for the passage of hot gases, and view of general arrangement of pipe coils and baffles (above and on outside of column). This is not drawn to scale.

imum heat transfer and fuel economy better than a shell still. This is illustrated and emphasized by the flue gas temperatures. The only chance of a shell still absorbing heat from the gases is in their passage under the shell from the burner to the flue and since the oil in a shell still is all at practically the same temperature, the flue gases can never be below the oil temperature.

Actually, they are at least a couple hundred degrees higher, going to the stack at 600 to 800 degrees F. and sometimes more. In the pipe still, with its counter flow principle, the outlet gases can be brought down more clearly to the inlet oil temperature.

A case is known where oil enters from the heat interchanger at about 250 degrees, the gases leaving at 385 degrees and never over 400 degrees. A well designed shell still, with an efficiency of 38 per cent by test, had a flue temperature of 665 degrees. With the same firing rate, the same excess air and the same initial furnace temperature, the shell still represents a heat loss of 15.5 per cent higher than the pipe still. In other words, to do the same work the shell still uses 15.5 per cent more fuel.

Reducing Tube Oxidation

Another fuel saving means, equally adaptable to either type of still, will be mentioned to show the possibilities yet before us in conserving fuel and reducing operating costs. It is well known that the temperature of combustion with the exact amount of air needed, is much higher than ordinary furnace refractories will stand.

For example, the temperature of a natural gas flame with no excess air is close to 3500 degrees F. To cut this to the temperature a furnace and still can stand, excess air is admitted. In other words, the furnace is over-ventilated and a very large quantity of air is heated, only to pass up the stack, a dead loss.

Recuperators can recover some of this heat and save it by heating the incoming air or, perhaps better, a portion of the flue gases can be taken from the base of the stack and recirculated through the furnace by means of a blower. These inert gases are already hot; they may be considered as never leaving the system and while they dilute the very hot flames, since only the proper amount of air for combustion is allowed to enter the furnace and an equivalent quantity of flue gases to go up the stack, the heat loss by flue gases is greatly reduced.

Leaving the pipe still now and considering the oil at the outlet to be at a predetermined temperature and being held to that temperature by thermostatic control on the fuel valves, we will consider the evaporator where the hot oil is released and permitted to evaporate to whatever degree necessitated by its original temperature.

In its earlier stages, the evaporator was a simple expansion drum where the pressure on the oil was released. Later developments added baffles of various types.

The style I have shown, calls for the oil being introduced through a perforated rig, spraying downward on the outer surface of a conical baffle. The vapors separating can pass off at once and are removed from further contact with the oil, so there is no danger of re-absorption at cooler temperatures.

The oil flowing over the bottom edge of the first, or top cone, is again broken up by the serrations around its edge and then falls on the inner surface of an inverted cone. This process is repeated over a sufficient number of trays to insure separation and the residual oil then falls to the reservoirs at the bottom, from whence it can pass to a battery of shell stills for further reduction, or be pumped through a second pipe still for further processing.

The vapors separating from the oil pass upward, either through the inner passage way or up around the shell, which should be insulated, to the top of the evaporator, where they can be dried of entrained liquid by a few pans of baffles or by some such device as a Tracy purifier.

Steam Coils In Tower

It will be observed that a small steam coil is indicated at the base of the tower. This permits superheated steam to enter to aid in the evaporation or separation, much as it does in shell stills, by decreasing the oil vapor pressure over the oil in keeping with the well known law of partial pressures.

While only the one type of evaporator has been described, other efficient evaporators may be designed but in any case, the prime features to be sought are the distribution of the oil in a thin spray or thin layers and a means of conducting vapors away as

More About Pipe Stills Next Week

THE subject that Mr. Camp brings up in this paper, the superior economy of pipe stills as compared with shell stills, will be discussed further in Article 2 of Paul Truesdell's series of five stories on the Smith's Bluff plant of the Pure Oil Co.

Article 2, headed, Distillation and Fractionation, will describe in detail the practice followed by the Pure Oil engineers in operation of that interesting plant. The design and construction of the special fractionating system designed by company engineers will be described.

Pure Oil officials believe they are getting results in their plant from their special equipment that are being equaled in very few plants if at all.

Watch for this story, Article 2. March 25 issue.

Article 1 of this series appeared in the March 11 issue.

rapidly as liberated so no re-absorption into the cooled oil will take place.

The separated vapors leaving the evaporator represent a crude product and they must be further fractionated before being of greatest value. Such separation or fractionation can be effected by rerunning or by use of fractionating towers. There are many types of towers, some being little more than mere drums, others contain fillings of crocks, stones, pipe nipples or other material, others are filled with trays or pans or other baffles while still others have series of bubble caps.

In the question of towers there is perhaps greater divergence of opinion than on any one subject in the industry and while I am about to discuss one particular type you should not infer that I mean it is necessarily the only tower, for individual conditions may make some particular type best for that case.

Tower With Pans

The tower I have indicated is a plain shell filled approximately as shown with shallow pans or trays arranged so that the ascending vapors pass around the edges of one pan and through the center of the next and so on. The reflux or condensed fractions pass downward from one tray to another either overflowing the edges of the trays or dripping through small holes punched around the edges of the trays or the central opening.

While a number of such towers have been operated with just the pans, some have also been built with from two to five trays of bubble caps above the pans.

In the head of the tower are two pipe coils for control purposes, the outgoing vapors passing around the coils while some cooling medium is passed through the coils. After passing the coils the vapors are sharply reversed in direction so any entrained liquid is thrown out. The coils may be thermostatically controlled to give a certain definite temperature to the outgoing vapors, thus resulting in a gasoline of a desired endpoint. Whatever portion the cool coils condense, drops to the bottom of the tower, over the trays, as reflux or knockback.

The outgoing vapors pass to a condenser which may be of the conventional submerged type or one of the multitubular type as developed by the Southwestern Condenser Company, by Braun or Griscom-Russell.

Crude Must Be Considered

In some cases, vapor to oil heat exchangers and condensers may be utilized, thus returning to the system the heat in the vapors. The use of such apparatus is a special problem and depends on the work to be done, on water conditions and on the crude oil, as some sulphur bearing crudes make it practically impossible to use any but cast iron coils for condensers.

The reflux from the tower base may be saved as a cut or it may be returned to the still, or to the next still if the topping unit is used in connection with a continuous battery.

Summarizing, the topper, I have discussed is a pipe still, an evaporator, a fractionating tower and a condenser. The other necessary equipment such as pumps, receiving house and equipment and the like are obvious and need no discussion.

Such a topper can operate very efficiently in connection with a crude battery by taking off the gasoline cuts, the topped oil from the evaporator entering the first shell still by gravity together with the reflux from the tower, while the hot residuum from the final still can be cooled in an interchanger wherein the crude on its way to the topper is preheated. In this arrangement a portion of the cold crude is cut through the tower coils for control purposes.

A further development is the addition of further toppers of the type discussed, the topped oil from the first being picked up by a hot oil pump and forced through the next and so on.

Some work has been done along the line of evaporating a heavy cut from the crude, then knocking down the respective cuts desired in a series of towers, the lighest fractions being thrown down last. The commercial development of this type of plant has not been highly successful as yet, but future work may make it a very desirable process.

Waite Phillips Starting Lube Department

TULSA, March 13.—The Waite Phillips Co. is organizing a lubricating oil department which is to be under the management of J. T. Owen, formerly vice president of the Missouri Valley Refining Co. of Tulsa.

The company is building a complete compounding plant in connection with its bulk station on North Peoria at the Santa Fe tracks. The plant will be ready for operation within the next two or three weeks. With this plant, the Waite Phillips Co. will be able to offer the trade a complete line of motor oils, industrial oils and greases.

Dan Roberts, formerly chemist for the Oklahoma Natural Gas Co. has been made superintendent of the new plant. J. O. Green will work out of the Tulsa offices as lubricating engineer. R. R. Risser, who has been in charge of Arkansas marketing operations of the company has been transferred to Kansas City to manage lubricating oil sales in that district. C. A. Riley, formerly with the Riley-May Petroleum Co. at Little Rock, will cover the Arkansas division for the new department.

CHICAGO,—The Atlas Petroleum Co. of Kansas City, successor to the Taxman Refining Co. of Chicago, is about to establish a Chicago office. Phil H. Taxman will be in charge. Arrangements have been made for office space on the ninth floor of the Blum building at 624 South Michigan av.

Crankcase Dilution Onus Put on Cold Engine

CLEVELAND, March 14.—A hot water jacket on an automobile engine reduces crank case dilution and a cool engine increases the dilution, according to the Bureau of Standards. Crank case dilution, tests of the bureau show, has proved to be one of the greatest drawbacks to the use of a heavier or less volatile gasoline, and to an increase in the supply of gasoline by greater recovery from the crude oil. The tests showed that when the engine became warm that as many miles per gallon were obtainable from a gallon of heavy gasoline as from the light gasoline obtainable a few years ago.

In a cool cylinder, the bureau explains, the fuel is only partially vaporized, and the unvaporized gasoline does not burn. Instead, it remains in the cylinder and mixes with the oil, and is carried into the lubricating system of the engine. After awhile the oil becomes so diluted that its lubricating value is seriously impaired, and it has to be replaced.

Dilution may also be lessened by high temperature in the crank case oil, as heat tends to separate the gasoline from the oil.

The loss of efficiency accompanying this dilution may be extremely small, the bureau points out because only a very small proportion of the gasoline fed to the engine is required to produce serious dilution.

Everything possible should be done to reduce the time required to warm up the engine in starting, the bureau states, as dilution has been found to take place much more rapidly when starting than after the engine has reached its operating temperature. In starting, the gasoline consumption may be as much as 20 times the normal rate, and much of the unburned gasoline gets into the oil. Dilution is also made worse by frequent starting of the engine, with alternate short periods of use and of cooling off.

SEEK UNIFORM ACCIDENT RECORDS

NEW YORK, March 13.—With a view to promoting uniformity of practice in the recording of accident statistics, 40 members of the Atlantic division of the petroleum section, National Safety Council, met in an informal conference at New York City. A committee of five was appointed to study the situation and reports their findings at a meeting March 18. The committee will develop a cause classification for tabulating accidents in the petroleum industry.

CHICAGO.—S. D. Hastings, Jr., of Barkhausen Oil Co., Green Bay, Wis., with Mrs. Hastings, was in Chicago, March 6 and 7 on his way home from a month's trip through the Mid-Continent field and a pleasure visit at New Orleans.

Train the Force to Sell More Grease Because it is Profitable

By J. R. Battenfeld,
Battenfeld Grease and Oil Co., Kansas City, Mo.

THERE is a good profit in grease for the jobber. A grease costing you 4 cents a pound in barrels sells to the retailer for about 8 cents. A gear compound costing you 5 cents sells to the retailer for 9 to 12 cents per pound. There is at least 100 per cent gross profit in it for you, and every garage or service station is a prospective customer.

The market for this product is increasing rapidly in all territories. First, because of the natural increase in the number of automobiles, trucks, and tractors being used; and second, because people are taking better care of their cars on account of the new greasing systems on most makes, which render it much easier to grease a car.

Thus, as there is more grease to be sold it is a matter of meeting the competition in sales, which we must cope with successfully This can be done in several ways. One of the first is to educate your salesmen.

Must Know Product

A salesman must know his product before he can hope to sell it. He must know the requisites of a good lubricant, which are:

1. Body enough to prevent the surfaces to which it is applied from coming in contact with each other;

2. Freedom from corrosive acid of either mineral or organic acid origin;

3. As great fluidity as possible, consistent with body;

4. A minimum tensional resistance of the particles to motion;

5. Freedom from all materials liable to produce oxidation or result in gumming. Suitable tests for determining all of these properties can be given you by your manufacturer.

A salesman should also know which greases are the best for manual application and which are better to use in mechanical devices for lubrication. When a salesman thoroughly understands his product he then believes in it and has faith in it. Thus equipped he can be invincible. He can talk it morning, noon and night and put forth every bit of energy he has in the selling of it.

How to Push Sales

Have your salesmen canvass the garagemen and truck owners in your territory, whether you sell them oil or not. Get them to try out your greases even if it is only a 100-pound keg. If your product has merit and you are in touch with them regularly, you will find you have an established customer.

Another way in which to stimulate sales of greases is to put on a specialty salesman to work with your other salesmen in a grease selling campaign. There are several companies in the east who put out specialty salesmen selling nothing but grease, and they make sales to a great many of your customers and usually get from 4 to 5 cents per pound more for it than your regular price. These greases very seldom have any particular merit, but are talked up and specialized on so that the customer actually believes he is getting a better lubricant. This is not practical, however, unless a customer has at least eight or ten salesmen.

J. R. Battenfeld
Battenfeld Grease & Oil Co., Kansas City

How It Is Done!

IN an address before the recent annual meeting of Independent jobbers in Iowa, J. R. Battenfeld read a paper entitled, "How to Sell More Grease," most of which is published herewith. He closed his paper as follows:

"1. Educate your salesmen so they can talk grease intelligently.

"2. Equip your stations and instruct your attendants for the sale of grease.

"3. Use a specialty salesman with your sales organization if it is big enough.

"4. Advertise your grease along with your other products, using circulars to be distributed at your stations.

"5. Offer some sort of premium with the purchase of a certain quantity of grease."

Teach Station Men

Sales of grease may be increased by instructing your station men as you have your salesmen. Have them ask each customer that buys motor oil, if they may not inspect the differential or transmission of the customer's car. They will find that a large percentage of them will need from two to five pounds of grease. This grease costs you about 5 cents and when put in the car you will get 20 to 25 cents per pound; a profit of from 30 cents to $1.50 for about 15 minutes work. Explain to your attendant that he would have to sell 25 to 75 gallons of gasoline to make that much profit for his station.

Stock each station with at least one 100-pound drum of gear compound and have it equipped with a good grease pump. Keep the drum out where your customers can see it and have your man posted on the quality of your product, and the reasons why a car should be greased thoroughly and regularly. The first oil companies that equip their stations and instruct their men, will be the first to profit.

What One Man Did

A good example of this was brought to our minds a few weeks ago. We have a customer in Kansas who has 14 or 15 stations, bulk and filling, and his grease sale will amount to approximately seven carloads a year. He has no specialty salesmen, all of his grease being sold through these stations. I asked him the other day how it was that he sold seven carloads of grease a year while we had other customers who have five, yes ten times the number of stations and sold very little more and some of them not as much. He told me that once a month they had a "get-together" meeting of their entire organization and talked over these different items and at each meeting the subject of greases was always discussed so that it was before these men all of the time. His station men are educated on grease and equipped to sell it.

Compared to Motor Oil

On the other hand, in discussing this same subject with another jobber a few weeks ago, in comparing his grease tonnage of 1924 with the previous year's grease sales, found he showed in an increase of about 5000 pounds. I asked him what he thought was the reason for such a small increase in proportion

to his large increase in oil and gasoline sales. He said he believed they drilled and pushed their men so hard on motor oil that they thought of that and nothing else. If they made a sale of motor oil or if they didn't make the sale, they did not go back at the prospect and take up the matter of greases. The salesmen did not understand that there was good profit in the sale of grease and thus thought it unimportant.

There is an interesting article in the Feb. 4 issue of National Petroleum News discussing the greasing proposition. It tells how a certain oil company in Illinois built up a profitable business on oil and grease by installing a "Lub-Servatory." These people put out attractive advertising relative to this station and during the first 24 days greased and oiled more than 600 automobiles.

Mail Out Circulars

A Kansas City oil company has put in three or four greasing racks in Kansas City, and in order to stimulate and advertise this end of their business, mailed a circular to every car owner in the city. Attached to the circular was a coupon entitling the holder to a free greasing at any one of its racks. This brought hundreds of new customers to them and there were few people that came in who did not either have their crank case refilled or make a purchase of gasoline. The result is, I believe, that this company is doing more business at their grease racks than any other oil company in Kansas City.

Another method of increasing sales of grease is by advertising it. Devote some of your space exclusively to grease. Keep it ever before the minds of your customers that you are in the grease business and that the product you handle is the best. Some manufacturers are furnishing letters, or circulars with hints, salespoints and information on grease which are sent to jobbers to be dispensed by them to their trade at no expense to the jobber.

Another method of stimulating sales is to offer some sort of premium with a sale of grease. A premium proposition is also a good method of stimulating gear compound sales, either a free grease pump or 100-pound keg of cup grease free with a two or three-barrel order. Several companies are giving away a grease pump and truck with an order for six 100-pound drums of gear compound. The pumps and truck are invoiced at $12 and a credit of $2 is given as each drum of grease is ordered out.

We are now working on a plan to get into direct touch with our customers' salesmen, station men and tank wagon men at least every 60 days; this effort is a sort of an educational course to give them a fair understanding of the quality and merits of the various greases, and to stimulate the sale of greases by giving them sales points which they can use to build up your grease tonnage. This, of course, is handled through your office, as we feel sure the information we put out receives better attention and brings better results if it appears to come direct from you.

NEW OIL STATION CONSTRUCTION

Lincoln, Neb.—Sidney A. Cornell, manager Shaw Oil Corp., building mission style service station at University Place, suburb of Lincoln. He will operate station independently but will handle Shawnee line of products.

* * *

Mobile, Ala.—Adams Tire Service building two service stations, according to J. W. Lord, manager. It just completed installation of new 10-gallon Wayne pumps at all four of its stations.

* * *

Colfax, Ia.—Frank D. Neal to build bulk station to handle U. S. Motor gasoline and other petroleum products. Mr. Neal may build another service station at Colfax.

* * *

Kansas City, Mo.—Grafoleum Products Co. plans to build two service stations and install storage tanks for gasoline here, according to C. E. Harrell.

* * *

Portsmouth, O.—Peerless Oil Co., new company which will wholesale and retail petroleum products, to erect service station on Chillicothe St.

* * *

Hallettsville, Tex.—Alfred C. Appelt erecting service station at Main and 1st Sts., to handle Magnolia and Gulf Products.

* * *

New Madrid, Mo.—L. B. Pinnell and John Riley each building service station. Ed Broughton planning to build station soon.

* * *

Sigourney, Ia.—Sigourney Oil Co., organized by Earl Hardesty, and two other local men, to build service station.

* * *

Wadena, Minn.—White Eagle Oil & Refining Co. erecting service station, to be operated by Otto C. Johnson.

* * *

Aurora, Ia.—F. T. Scharff, Service & Quality Bulk Oil Station, plans to erect filling station this spring.

* * *

Pittsburgh, Pa.—The Pennzoil Co. is erecting office, garage and bulk station to handle Pittsburgh trade.

* * *

Inman, Kan.—Sinclair Refining Co. building service station. William Achilles will be agent.

* * *

Chatsworth, Ill.—W. R. Preston building service station at 3rd and Walnut streets.

* * *

Goshen, Ind.—Standard Oil Co. of Indiana purchased site for filling station.

* * *

Ausley, Neb.—H. F. Butler building service station.

Mason City, Ia.—Highway Oil Co., this city, to build service station at Clear Lake, Ia.

Standard Oil Co. of Indiana to build service station at Clear Lake when weather permits, according to Jens Jenson.

* * *

Carthage, Mo.—O. W. Banks, of this city, building service station at Atchison, Kan., and just completed bulk station and two fiilling stations at Pittsburg, Kan.

* * *

Turtle Lake, N. D.—Webster & Son erecting service station. Mr. Webster, Sr., is agent for Standard Oil Co. of Indiana here, according to J. H. Franz, agent for Standard at McClusky, N. D.

* * *

Stanley, N. D.—R. F. Wherland, distributor for The Texas Co.'s products, will erect warehouse at Lunds Valley and Battleview, N. D., this year.

* * *

Burke, S. D.—Fred Himes bought property for service station. He will install 15,000 gallon storage underground for gasoline.

* * *

Columbia, Mo.—Pierce Petroleum Corp., St. Louis, building service station. George Bates is local manager.

* * *

Pana, Ill.—McTaggart Oil Co., new company, building three filling stations, handling Sinclair products.

* * *

McCook, Neb.,—William N. Casford Lincoln, Neb. purchased property for service station.

* * *

Leavenworth, Kan.—A. G. Clark, Clark Motor Co., purchased lots for filling station.

* * *

Portland, Ore.—Harding & Danforth erect service station at E. 21st and Broadway.

* * *

Fairmont, Minn.—Southern Minnesota Oil Co. purchased site for filling station at Luverne.

* * *

Wichita Falls, Tex.—F. M. Gates completed service station here at cost of $15,000.

* * *

Childress, Tex.—Mr. Brock of Brock Filling Station to build service station.

* * *

Ottawa, Ill.—William Jackson, Jr. bought property for filling station.

* * *

Langley, Ark.—Pierce Oil Corp. installing filling station.

* * *

Moline, Ill.—J. M. Benson to erect service station.

HERE AND THERE

W. C. HUGHES, who is the first field secretary of the Ohio petroleum Marketers Assoc., Columbus, O., started full time duties with the association on March 1. He has been for five years in the oil equipment business, having been representing the Dayton Pump Co. in Ohio territory.

Aside from his secretarial duties in the oil industry, Mr. Hughes does considerable "flying," which he says is his hobby. He was in the naval aviation division during the war and still retains a reserve officer's commission in aviation.

* * *

F. M. Rowles, western manager of the Tide Water Oil Sales Corp., at San Francisco, Calif., has just returned from a two weeks' trip in southern Calif., where he was joined by F. H. Dickinson, director of sales and advertising at New York. After a short visit at the San Francisco offices, Mr. Rowles and Mr. Dickison left for the Pacific northwest. They report a great deal of development in Veedol sales so far this year and are optimistic over 1925 prospects, according to Harold R. Deal, western advertising manager.

* * *

R. T. Gilpin, special representative in charge of grease sales at New York, is another recent visitor to the Pacific coast offices of the Tide Water. Mr. Gilpin is addressing meetings of the Tide Water salesmen on Veedol chassis, transmission and differential lubricants. New dispensing equipment is being distributed by the Tide Water to Veedol dealers in order to enable them to better develop and handle their lubrication business, Mr. Deal reports.

* * *

Stanley Snyder, who has been in the oil industry for the past 14 years, has just been promoted to sales manager of the Charles F. Kellom & Co. division of John Harrison, Jr. Co., Philadelphia, Pa., manufacturers of Invader oil and greases. Mr. Snyder will be in charge of sales in eastern Pennsylvania, New Jersey and Delaware.

* * *

F. B. Plummer, Houston, Tex., leaves Houston on March 23 to attend the convention of petroleum geologists at Wichita, Kan., on March 26 to 28. From there he will proceed to Chicago to deliver the spring lectures on petroleum geology during the 12-week quarter.

* * *

William Madson, Clear Lake, Ia., has become agent for the Standard Oil Co. of Indiana at Klenmoe, Ia., according to Jens Jensen.

H. L. Wollenberg, general manager, Beacon Oil Co., Massachusetts, is in Venezuela inspecting the company's production properties which are being developed jointly with the Sun Oil Co., Philadelphia.

W. C. Hughes
Field Secretary, Ohio Petroleum Marketers' Association

* * *

Beverly G. Brown, of the Associated Oil Co., San Francisco, Calif., has just been appointed construction engineer of its new distributing plant and tank farm at Monterey, Calif., according to C. B. Toombs. This new plant is being erected at a cost of $500,000, and will replace the one destroyed by fire last September. It will be modern in every way and will be completed by July 1, reports Mr. Toombs.

* * *

Prof. Roswell H. Johnson, L. C. Morgan and Paul D. Torrey, of the School of Mines, University of Pittsburgh, will attend the meeting of the American Association of Petroleum Geologists at Wichita, Kan., on March 26, 27 and 28.

* * *

Warren A. Emery, formerly engineer for the Keystone Auto Gas & Oil Service Co., Pittsburgh, Pa., has designed and is superintending the erection of plants for the Pennzoil Co. and the Taylor Oil & Gasoline Co. at Pittsburgh.

* * *

J. W. Hurley, vice president and general manager of the Hurley Gasoline Co., Tulsa, Okla., has been looking over the company's properties at Breckenridge, **Tex.**

Several changes in the marketing division of the Indian Refining Co., Lawrenceville, Ill., include the appointment of A. H. White, formerly assistant manager of the station department as assistant sales manager; J. F. Reilly, E. S. Erickson and L. B. Elliott, who were promoted to division managers and who divide geographically the entire merchandising of Havoline oil, Indian gasoline and Mill oils.

The advertising department, follow-up section and other sales support have been consolidated into the sales service, and H. C. Grimsley has been appointed head of this division, as chief of sales service.

* * *

E. P. Wilbur, president of E. P. Wilbur Co., Inc., Los Angeles, Calif., marketer and refiner, is making an extended business trip through the east. Max. A. Koffman, treasurer is "holding the fort" in Mr. Wilbur's absence. Reports show expansion and healthy growth in marketing conditions, a member of the company says.

* * *

L. R. Crawford, formerly president of the Paragon Refining Co., Toledo, O. and until recently with the Carnegie Refining Co., Carnegie, Pa., is now at Denver in charge of the refining and marketing divisions of the Producers & Refiners Corp., according to Harold Van Deman, engineer and night superintendent of the Paragon at Toledo.

* * *

Ross W. Graham, who has been with the White Eagle Oil & Refining Co., Kansas City, Mo., for six years, is now representing the lubricating department in northwestern Missouri, according to E. B. Kendrick, of the Kansas City offices.

* * *

L. L. Marcell, president of the White Eagle Oil & Refining Co., Kansas City, Mo., together with his wife Mrs. Marcell and daughter, Miss Genevieve Marcell, are expected to return in about a month from a tour of the Mediterranean countries, and Egypt and the Holy Land.

* * *

D. W. Newton, president of the Newton Process Equipment Co., Los Angeles, Calif., is spending several weeks in the Mid-Continent field, installing plants for the Hurley Gasoline Co., Tulsa.

* * *

C. C. Rosenberg, of the Rosenberg Motor Co., Lexington, Neb., who has spent the past two months in southern California has returned to work again.

Oil Trademarks For Copyright

THE following are trade-mark applications pertinent to our field pending in the United States Patent office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address NATIONAL TRADE-MARK COMPANY, Barrister Building, Washington, D. C., trade-mark specialists.

As an additional service feature to its readers, this journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering. You may communicate with the Editor of this Department, or send your inquiry direct to the NATIONAL TRADE-MARK COMPANY, stating that you are a reader of this journal.

Ser. No. 201,312. (Class 15. Oils and Greases.) Standard Oil Company of New York, New York, N. Y. Filed Aug. 12, 1924.

No claim is made for the purpose of this registration, but without waiving any common-law rights thereto, to the words "High Quality," "Aviation," "Trade-Mark," and "Gasoline" apart from the mark shown in the drawing.

Particular description of goods.— Petroleum Products —Namely, Gasoline and Naphtha.

Claims use since Dec. 5, 1919.

—o—

Ser. No. 203,316. (Class 15. Oils and Greases.) Inter-Cities Oil Company, Springfield, Ohio. Filed Oct. 2, 1924.

Particular description of goods.—Lubricating Oils and Greases.

Claims use since Nov. 10, 1921.

—o—

Ser. No. 186,656. (Class 15. Oils and Greases.) Miner-Edgar Company, New York, N. Y. Filed Oct. 6, 1923.

Particular description of goods. — Lubricating Oils and Greases, Kerosene, and Gasoline.

Claims use since on or about Oct. 1, 1914.

—o—

Ser. No. 205,490. (Class 6. Chemicals, Medicines. and Pharmaceutical Preparations.) Power Oil & Gas Company, Spokane, Wash. Filed Nov. 18, 1924.

Particular description of goods.—Motor Fuel Ingredient.

Claims use since May 15, 1924.

Ser. No. 188,896. (Class 15. Oils and Greases.) D. C. E. Sales Company, Wilmington, Del. Filed Nov. 26, 1923.

Particular description of goods.—Gasoline.

Claims use since on or about Oct. 6, 1923.

—o—

Ser. No. 205,964. (Class 15. Oils and Greases.) Sunburst Refining Company, Great Falls, Mont. Filed Nov. 28, 1924.

Particular description of goods.—Gasoline.

Claims use since Oct. 1, 1924.

—o—

RED DEVIL

Ser. No. 136,859. (Class 15. Oils and Greases.) George L. Swift. doing business as The Red Devil Company, Chicago, Ill. Filed Sept 4, 1920.

Particular description of goods. — Gear Oils, Transmission Oils, Transmission Greases, Lubricating Oils, and Lubricating Greases.

Claims use since about latter part of August, 1919.

Ser. No. 201,099. (Class 15. Oils and Greases.) The Owl Drug Company, San Francisco, Calif. Filed August 7, 1924.

Particular description of goods.—Gasoline and Benzine.

Claims use since May 29, 1912.

—o—

Ser. No. 200,698. (Class 15. Oils and Greases.) Acme Products Company, New Orleans and De Quincy, La. Filed July 30, 1924.

No rights are asserted to the exclusive use of the words "Quality" and "Service" apart from the mark as shown in the drawing.

Particular description of goods.— Pine Oil Used in the Flotation Process of Ore Concentration.

Claims use since Oct. 15, 1922.

—o—

Ser. No. 204,765. (Class 15. Oils and Greases.) The Franklin Oil & Gas Company, Bedford, Ohio. Filed Nov. 3, 1924.

Particular description of goods.—Oil for Use with Lathes and Cutting and Drilling Tools.

Claims use since Jan. 1, 1916.

Ser. No. 191,976. (Class 15. Oils and Greases.) Petroleum Export Corporation, Los Angeles, Calif. Filed Feb. 7, 1924.

Particular description of goods.—Petroleum Products —Namely, Gasoline, Kerosene, Lubricating Oil, Lubricating Greases, Fuel Oil.

Claims use since Nov. 1, 1923.

—o—

Ser. No. 205,124. (Class 6. Chemicals, Medicines. and Pharmaceutical Preparations.) Mercoline Company, El Paso, Tex. Filed Nov. 11, 1924.

The drawing is lined to show that the word "Mercoline" and the representation of the flying Mercury are printed in red and the globe in blue.

Particular description of goods. — Liquid Chemical Compound for Treating Gasoline so as to Prevent the Formation of Carbon in Motors or Engines Using Gasoline for Fuel and Also Designed to Increase the Power and Mileage Obtained from Gasoline when the Same is used as Fuel for Commercial or Other Motor Vehicles.

Claims use since Oct. 1, 1924.

—o—

Ser. No. 188,228. (Class 26. Measuring and Scientific Appliances.) The Bennett Injector Company. Muskegon, Mich. Filed Nov. 12, 1923.

Particular description of goods. — Self-Measuring Oil Pumps, Self - Measuring Grease Pumps, Self-Measuring Visible Oil Pumps, Visible Oil Pumps, Grease Cabinets with Measuring Pump Attached, Self - Measuring Barrel Oil Pumps, and Greasing Outfits with Measuring Pump Attached.

Claims use since Jan., 1921.

Men Walk Better and Work Better on IRVING PATENTED SUBWAY FLOORING

Their minds are on their job and not on their feet—they know they have a secure footing—they feel safe and comfortable and confident—all because of **Subway's** non-slipping surface. This means added dollars in the earnings of the plant that is floored with **Subway.** Write for Catalog 4A58.

IRVING IRON WORKS CO.
LONG ISLAND CITY, N.Y. U.S.A.

And to make stairways equally safe and comfortable with the **Subway** floor, use **Safsteps,** the non-slipping, all-steel safety steps.

P-63

Only the VIKING Wears this Badge of Honor

Engine, Belt or Motor Driven

THE gold metal awarded the VIKING Rotary Pump at the Panama-Pacific Exposition a few years ago confirms the high recognition universally given this excellent pump by leaders in the oil industry.

Many of the principal oil companies use no pump but the VIKING. One company uses more than a thousand. Altogether, over 65,000 are now in use.

This wide recognition and preference is due solely to VIKING's simple design, economical operation and high efficiency.

VIKING PUMPS

The VIKING embodies a radical improvement in pump design. There are but two moving parts, assuring less wear, longer life and freedom from trouble. The flow is positive and steady. The pumping volume is large, each of the twin pumps handling 90 gallons a minute. However, the power requirement is surprisingly low. It is thoroughly factory-tested against leakage and is *guaranteed not to leak.*

FREE BOOK The improved pumping principle is clearly shown in the new VIKING catalog. Profusely illustrated. Many factory scenes. Useful pumping information. How to determine power required for pumping. GET YOUR COPY TODAY.

VIKING PUMP CO.
Dept. 21 Cedar Falls, Iowa

R. F. Schirmer Co., Inc.	342 Madison Ave., New York, N. Y.
Viking Pump Co.	549 W. Washington Blvd., Chicago, Ill.
Viking Pump Sales Co.	204 Grand Ave., Milwaukee, Wis.
Viking Pump Co. of Canada, Ltd.	Walkerville, Ontario
Menge Pump & Mach. Co., Ltd.	862 Tchoupitoulas St., New Orleans, La.
De Laval Pacific Co.	61 Beale St., San Francisco, Cal.
Kerr Machinery Corp.	Kerr Building, Detroit, Mich.
Hayes Pump & Machinery Co.	94 Pearl St., Boston, Mass.
The Schirmer Co.	750 Prospect Avenue, Cleveland, Ohio
Southern Engine & Pump Co.	Houston, Texas
Power Equipment Co.	Oliver Building, Pittsburgh, Pa.
Walter H. Eagan & Co.	Stephen Girard Bldg., Philadelphia, Pa.
Walter O'Bannon Co.	519 21 E. First St., Tulsa, Okla.
Norton Paper Goods Co.	719 Delaware St., Kansas City, Mo.

Send for FREE Book

Viking Pump Co.
Dept. 21
Cedar Falls, Iowa

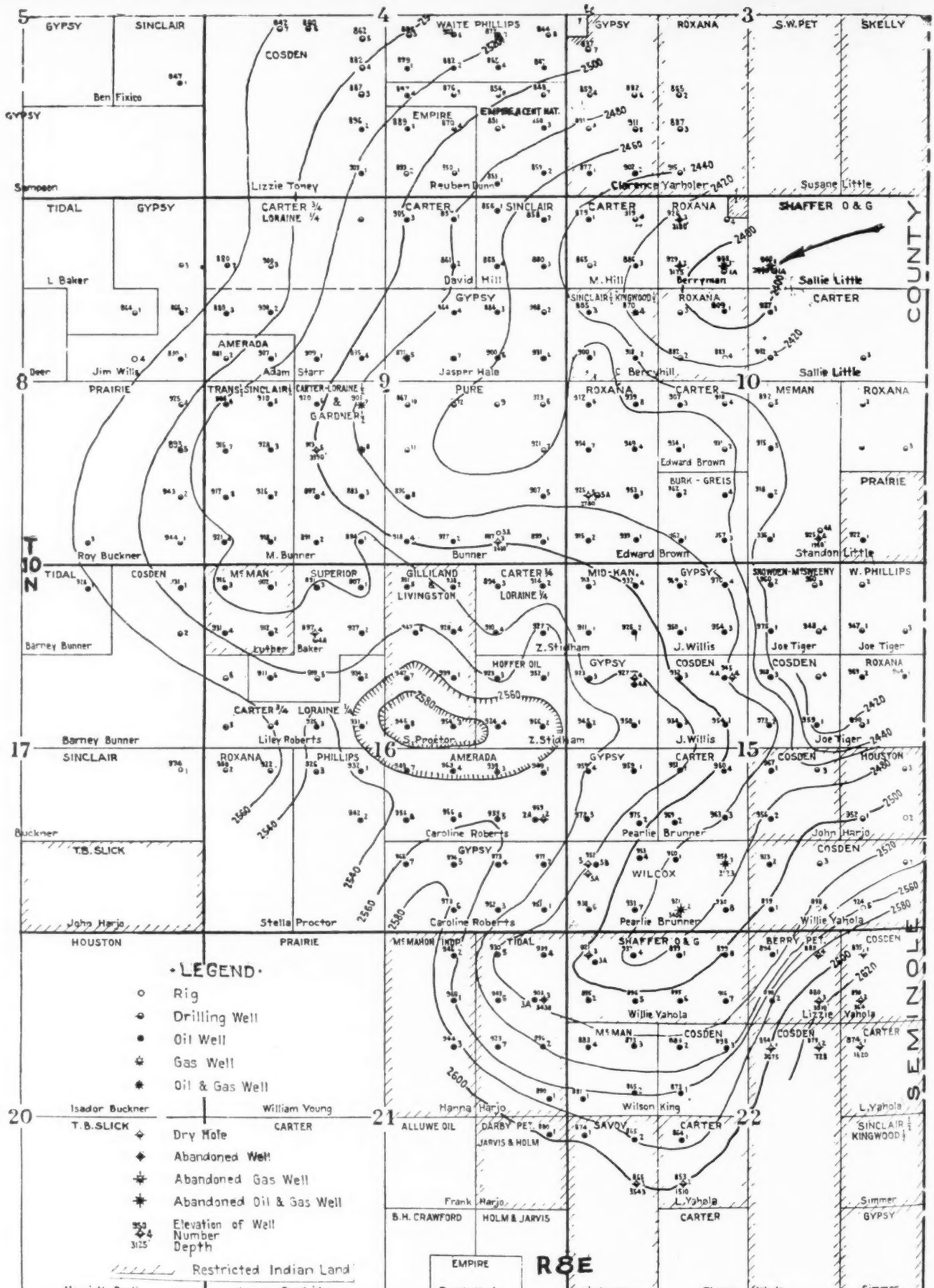
Please mail me your new FREE pump book.

Name .....

Address .....

.....

Arrow on map points to well recently drilled to Wilcox sand which will lead to further drilling of this horizon.



Report on Cromwell Field Gives Much Valuable Data on Development

By A. F. Hinton
N. P. N. STAFF WRITER

TULSA, March 13

ALTHOUGH the Cromwell field reached its peak of production last summer, and for several months past has been on the decline in production, a great deal of drilling still is in progress there, and recent developments have indicated the possibility that the field's productive a ea may extend considerably farther north than had been anticipated. Also, a test to the Wilcox sand has in recent days, given encouragement to further drilling to that horizon.

For these reasons, and also because of the fact that other pools of similar depth and characteristics are likely to be developed in the general Seminole-Hughes-Okfuskee area, timely interest is accorded the bulletin on "Petroleum Engineering in the Cromwell Field," by C. O. Rison and John R. Bunn, of the Muskogee field office of the U. S. Bureau of Mines. This bulletin is being published by the Mid-Continent Oil & Gas Association, and will be distributed to the membership of that organization, together with the association's annual report, which will replace the "Year Book" published by the association during past years.

As its title indicates, the bulletin covers every phase of petroleum engineering met with in development of the field, and was written after nearly a year's work in field and office, during which time both authors were intimately identified with both drilling and production problems through their supervisory capacity over ope ations on Indian land. The Bureau of Mines works with the Office of Indian Affairs in enforcing the latter's conservation regulations on departmental leases.

The report is divided into four parts. Part I gives a history of the development of the field, and a discussion of the stratigraphy and subsurface structural conditions. Part II discusses methods and problems of drilling. Part III deals with production from wells, handling of producing w e l l s, and methods of stimulating oil production. Part IV deals with the field's water problems, giving methods of determining the source of water in wells, and discussions as to how it may be excluded.

Description of Sand

In describing the Cromwell sand zone, the field's principal producing horizon, the report says: "The top of the Cromwell sand zone is penetrated at a depth of from 3301 to 3557 feet blow the surface, depending on structural position and surface elevation. In many wells in the southwest part of the field, located rather low on the structure, the upper part of the Cromwell sand zone occurs as a sandy lime of low porosity and devoid of production. This calcareous part of the sand has a thickness varying from a caprock of only two or three feet to 30 feet, as recorded in the logs of some wells.

"Records and cuttings from wells drilled into the Cromwell sand zone in certain parts of the field where the gas pressure had been more or less exhausted have shown the existence of shale or lime breaks in the sand. These breaks, varying from a few inches to several feet in thickness, appear to be of local occurence, and not uniform over the field.

"The Cromwell sand zone, as recorded in logs of wells drilled in certain parts of sections 9 and 10-10-8, has a thickness of from 125 to 174 feet. . . . This area of thickened sand zone thins considerably down the flank of the structure to the south and west. Several leases in the south half of section 9-10-8 have been disappointments from the standpoint of production. This conditions is no doubt due in part to late completion of the wells, but largely to the thinning and low porosity of the sand zone in this area."

The bulletin describes the major structural feature of the Cromwell field as a large anticlinal fold, the main axis of which appears to bear slightly to the west and north. The minor structural features are two transverse folds, with axis almost at right angles to the major structural axis, and separated by a completely enclosed synclinal basin. An undefined structural nose also is mentioned as another minor feature.

Compares Drilling Methods

In Part II, dealing with drilling methods, an interesting comparison is given between the use of cable and rotary tools in the field, with the rotary coming out far ahead in the matter of drilling time, time lost by fishing jobs, and wells abandoned on account of fishing jobs. In comparative costs, the two methods show up almost exactly the same. During the early part of the field's development, the use of cable tools predominated, but, says the report, "a considerable number of wells have been drilled with rotary tools to a point where the 8¼-inch casing is cemented and the wells later completed with cable tools. This casing point has varied from 100 to 900 feet above the top of the Cromwell sand."

A table is then given showing drilling time made by 32 wells completed with cable tools and a like number drilled to the 8¼-inch casing point with rotary, which is as follows:

Method	No. Wells	Total Drilling Time, Days	Total Feet Drilled	Average Time Per Well, Days	Average Depth
Cable Tools	32	2315	109,488	72.34*	3,421
Rotary Tools	32	1168	101,082	36.50*	3,159

*Includes time lost while fishing, running casing, and waiting for cement to set.

In explaining the table, the report says: "The wells included in the above tabulation were selected without regard to location, structure, or date of completion. However, the time consumed in drilling by either method varies and it is possible that the average for rotary tools as shown in the table, cannot be maintained. Only one well, the Roxana Petroleum C o r p. Edward Brown No. 6, was completed into the Cromwell sand zone with rotary tools. This well was completed to a total depth of 3472 feet, or 90 feet below top of the sand in 71 days, including eight days lost while cement was setting.

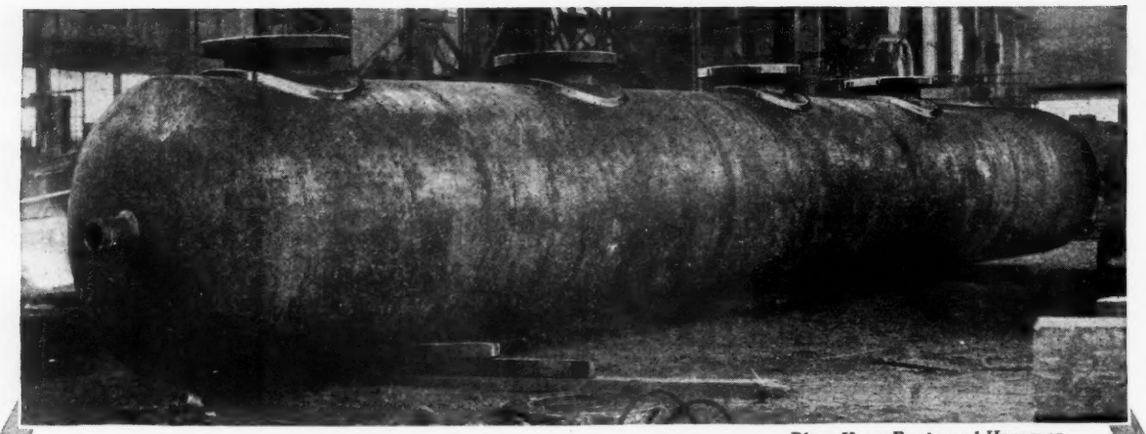
"The average d illing time per well, particularly with cable tools has been increased materially by fishing jobs, and considerable underreaming, as well as the running of casing, and in a majority of cases, by the time required for cement to set."

Another interesting table is then given, showing days lost through various fishing jobs and other drilling troubles. Aside from the fact that it shows cable tools as having much more time lost than rotaries, the figures given are of interest as showing what are the principal factors in drilling delays. The table is based on results shown by 70 wells, and could probably be taken as typical of any field. The table is as follows:

Drilling Time (Days) Lost on 70 Wells Prior to Nov. 15, 1924

Cause	Days
Fishing for:	
Drilling Tools	432
Cable Tool Bits	57
Underreamer Lugs	10
Bailers	102
Rotary Roller Cones	30
Casing Parted	182
Casing Telescoped	80
Swaging Casing	150
Rotary Twist Offs	72
Derricks Pulled in	50
Drilling Up Liner	60
Mudding gas and caves	105
Crooked Holes	33
Total Days	1363

"Although it is probable that considerable time lost in drilling by both



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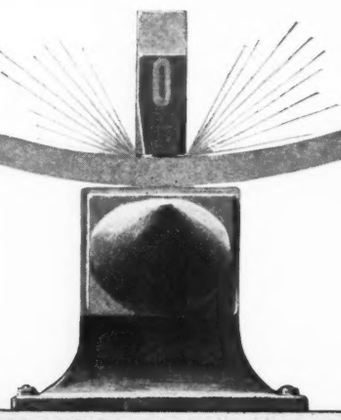

BLAW-KNOX **Forge & Hammer WELDING** BLAW-KNOX

methods has not been taken into account in the tabulation, due to lack of proper record, it is apparent that the time lost in cable tool operation far exceeds that in rotary drilling," says the report.

Prior to Nov. 15, 1924, 15 wells had been abandoned in the Cromwell field on account of casing and fishing troubles. An analysis of these cases is given in the report in the form of a table, which shows that only one of these wells was drilled with rotary tools. This was a Roxana well in section 10-10-8, which was abandoned at 2780 feet on account of a drill pipe twist-off. Of the 14 other wells abandoned, six were caused by tools lost in the hole, one on account of a crooked hole, and seven on account of casing trouble or unreported causes.

Gas Delays Drilling

In describing difficulties met with in drilling Cromwell wells with cable tools the report says: "In some parts of the field, the drilling of the Cromwell sand zone with cable tools is very slow, due to the high pressure and volume of gas found in the top of the sand zone. This gas sometimes increases with depth in the sand as to as much as 100 million cubic feet daily on the higher parts of the structure, and often as much as a month is required to drill the well through the gas-bearing portion and into the oil productive portion of the sand. During this time drilling is carried on with difficulty through an oil saver and control casinghead installed on the last string of casing landed, the gas being blown directly into the air. Usually, as soon as the oil begins to show in the gas, it is turned through a gas trap.

"The work of drilling the wells in under these conditions is both difficult and hazardous. The hazard is materially increased by the comparatively high rock pressure and the fact that many of the wells are not equipped with master gates under the control casinghead so that they can be closed in. Inasmuch as the ordinary control casinghead is not designed to withstand high pressures, each well should in addition be equipped with a master gate securely anchored with tie-rods and clamps to the last string of casing landed in the hole."

This recommendation, of course, applies not only to Cromwell, but to all fields where high pressure gas is found, and is an excellent conservation measure, as well as a protection in case of fire or other emergencies. The report recommends that at least two joints of 2-inch tubing or hydraulic pipe, be attached to the stem of the master gate and extended from under the derrick floor, so that in emergencies the well may be closed in without approaching the derrick closely. This is especially applicable in case of fire, for obvious reasons. It is stated in the report that the Gypsy Oil Co. has equipped a number of its wells in the field in this manner.

One of the most interesting features of the report is a table giving cost of drilling and equipping a completed well in the Cromwell field, both by cable tool and rotary method. This shows that the average cost of a cable-tool well, using all new material, such as probably would be used in the first well on a lease, is $49,602.48, completed into the sand, and not including an additional $10,240.00 for pumping equipment. The rotary wells showed a cost of 49,532.01, almost identical with the cable tool wells, but with the balance far in their favor on account of quicker time made in drilling.

These figures do not represent the average cost of all wells in the field, as many operators have been able to utilize considerable used material from warehouse stocks, and also to take advantage of more or less salvage in pulling larger sizes of casing from the wells as drilled. The figures are interesting, however, as giving an index of what it would cost to drill a first well with

Cost of the Drilling and Equipment of a Completed Well in the Cromwell Field

By Standard or Cable Tool Method

1—84-foot Turnbuckle derrick, complete. Including 6-inch rig irons, steel crown block and hand reel, erection charge and hauling.			$ 4,200.00
Digging cellar		75.00	
Digging slush pit		125.00	200.00
Casing:			
115 feet 20-inch, 90-lb. steel casing	at 7.61	875 15	
487 feet 15½-inch, 70-lb. steel casing	at 5.33	2,593.81	
1162 feet 12½-inch, 50-lb. steel casing	at 2.96	3,439.62	
1761 feet 10-inch, 40-lb. seamless casing	at 2.33	4,033.23	
2556 feet 8¼-inch, 32-lb. seamless casing	at 1.87	4,779.62	
3255 feet 6⅝-inch, 24-lb. seamless casing	at 1.33	4,329.15	
200 feet 5⅝-inch, 20-lb. seamless steel casing	at 1.11	222.00	20,272.48
Fittings, control head, clamps and casing shoes			750.00
1—250 bbl. wood tank (water), including erection charge			230.00
Drilling contract 3500 feet at $4.00 per foot			14,000.00
Fuel and water—Gas at $25.00 per day—Water at $10.00 per day			2,500.00
Day work—tools			1,500.00
Labor			1,200.00
Hauling casing and equipment			2,000.00
4-inch flow line (estimated)		600.00	
2-inch tubing gas and water line (estimated)		300.00	900.00
Cement and material			650.00
Emergency items			1,200.00
			$49,602.48

By Combination Rotary and Cable Method

1—116-foot or 122-foot Turnbuckle derrick, including erection charges, 6-inch rig irons, steel crown block, sand reel, and standardization			$ 4,500.00
Digging cellar		75.00	
Digging slush pits		125.00	200.00
Casing:			
31 feet 12½-inch, 50-lb. steel casing	at 2.96	91.76	
3000 feet 8¼-inch 33-lb. seamless casing	at 1.87	5,610.00	
3255 feet 6⅝-inch, 24-lb. seamless casing	at 1.33	4,329.15	
200 feet 5⅝-inch, 20-lb. seamless casing	at 1.11	222.00	10,252.91
Fittings, control head, clamps and casing shoes			500.00
1—250 bbl. wood tank (water), including erection charges			230.00
Drilling contract—*Rotary 3000 feet at $7.50 per foot			22,500.00
Drilling contract—Cable 500 feet at $4.00 per foot			2,000.00
Fuel and water—Gas $25.00 per day—Water $10.00 per day			2,500.00
Day work—tools			1,500.00
Labor			1,200.00
Hauling casing and equipment			1,400.00
4-inch flow line (estimated)		600.00	
2-inch tubing for gas and water line		300.00	900.00
Cementing and material			650.00
Emergency items			1,200.00
			$49,532.01

Pumping Equipment

1—4-inch, 67-foot steel pumping derrick		875.00	
Erection charge		200.00	
Hauling		50.00	$ 1,125.00
Corrugated iron and labor for belt house		150.00	
Sand and cement		75.00	225.00
1—25 H. P. 2-cycle gas engine		1,025.00	
Labor building engine and belt house		225.00	
1—16-ft. by 16-ft. by 8-ft. corrugated iron engine house		220.00	
Sand and cement		75.00	
Pipe and fitting		50.00	
Belting		140.00	
Hauling		60.00	1,795.00
3500 feet 2½-inch, 6¾-lb. tubing at 38 cents per foot		1,330.00	
3500 feet ¾-inch rods at $8.50 per 100 feet		297.50	
Working barrel, valves, stuffing box and polish rod		25.00	1,652.50
Tankage			
6—250-barrel vapor proof steel stock tanks at $548.00 each		3,288.00	
**1—500-barrel vapor proof flow tank at $755.00 each		755.00	
Fittings and gate valves		600.00	
Fire Walls		200.00	4,843.00
Emergency items			600.00
			$10,240.00

*Rotary casing depths and contracts vary from 2700 feet to 3250 feet. Cable tool costs are proportionately increased or decreased.

**Does not include gas traps.

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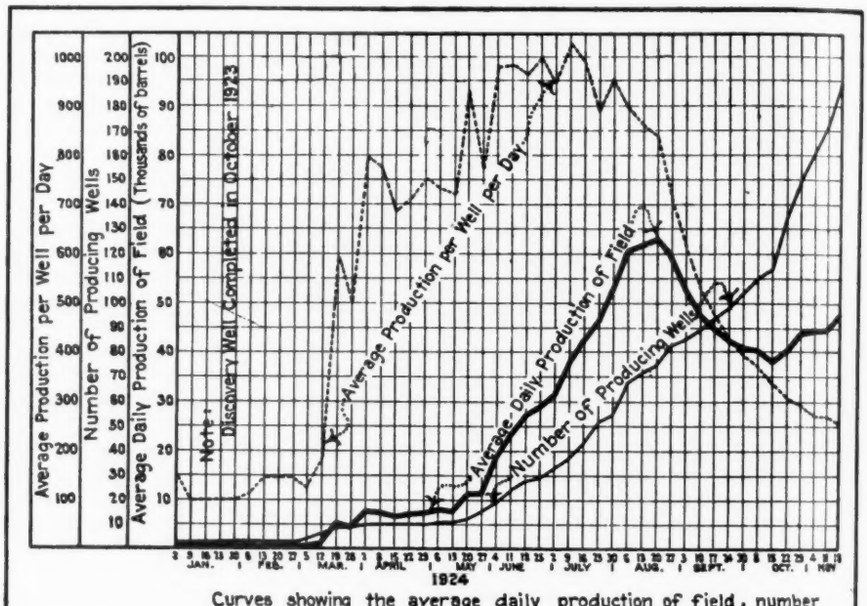
new material in the general Cromwell area, with comparable distance from railroad and road conditions. "The Cromwell field is 16 miles from the nearest point on a railroad," says the report, "and all material must be hauled by trucks or teams over a dirt road which becomes almost impassable in wet weather. This condition, together with the state of the market, has considerable to do with equipment costs in the field. Costs quoted in the table are for new materials as of November, 1924.

Chart showing Cromwell Well Production, number of Wells and Average Field Production


Average Production per Well per Day
Number of Producing Wells
Average Daily Production of Field (Thousands of barrels)
Note: Discovery Well Completed in October 1923
Average Production per Well per Day
Average Daily Production of Field
Number of Producing Wells
JAN. | FEB. | MAR. | APRIL | MAY | JUNE | JULY | AUG. | SEPT. | OCT. | NOV.
1924

Curves showing the average daily production of field, number of producing wells and average production per well per day of the Cromwell Field, by weekly periods.

Edward Valves for Oil Refineries

Hydrostatic Tests

Every EDWARD valve is subjected to severe tests by hydrostatic pressure of at least two and one-half times the maximum working pressure. Each valve is also tested by being subjected to air pressure while submerged in water to locate any small leaks not shown by the hydrostatic tests.

EDWARD valves are fully guaranteed for satisfactory, efficient operation.

THE EDWARD VALVE & MANUFACTURING CO.
EAST CHICAGO, INDIANA.

Station With Well, Ice Water Draws Trade

COLUMBIA, S. C., March 13.—An old-fashioned well equipped with the old oaken bucket so familiar to everyone who has lived or traveled in rural districts, is a feature at the recently completed service station of the Evans Motor Co., Inc. of this city. The well, which is equipped with coils at the bottom on which ice is placed to keep the water cool 24 hours of the day, has been installed there for the convenience of thirsty customers and tourists. The well is connected with the city water system, and attracts customers from all over the city, J. M. Evans, secretary and treasurer, says.

The fact that the company has more than doubled its sales of oil recently is attributable to the electric light bulbs encased in the three visible oil pumps which constantly flash on and off, according to Mr. Evans, who says that the lights "are remarkably efficient silent **salesmen.**"

Because he believes that many motorists dislike to drive their cars on drain racks, the company has built a pit into the cement floor which is more convenient for the driver. Another drawing card for gasoline and oil sales is the line of tires and accessories the company handles, as it is profitable in itself and enables the customer to buy all the necessities for his car at one place, Mr. Evans says. Four 20-foot windows, each containing 16 lights, display the tires and accessories to good advantage, all merchandise being arranged in steel showcases and bins in such a manner that a customer can see any item in stock from any point in the building.

That well-kept grounds and pretty flowers will attract the feminine trade to the station for gasoline requirements, is the conclusion of Mr. Evans who says that the beds of flowers which include red salvia, tulips and cannas, and grass plots flanking the driveways, have done much to make the station popular, especially with the ladies of Columbia.

An inducement to the tourist trade particularly is the highway map of South Carolina which has been placed on a fence for convenience of patrons.

When W. E. Evans, president, and J. M. Evans mapped out the plans for this station, it was their aim to make it one of the finest and best equipped in the state. It was completed at a cost of $27,000, and the company hopes to build two additional stations similar to it during the present year, according to J. M. Evans.

If you and "the refiner across the road" were purchasing the same type of crude oil and his skimming plant was recovering twice as much gasoline per barrel as yours, you would certainly sit up and take notice In fact, if you didn't, you would soon be out of the running

The same holds true of the Dubbs Cracking Process as compared with any other and it holds true of the refiner who has the Dubbs Process compared with the refiner who has none or even has some other process

It is a pleasure for us to know that every refiner who has installed the Dubbs Cracking Process is getting far greater value than we promised and the licensee of the process is even happier than we

We knew it, but it is a pleasant surprise to him

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Petroleum Engineer and Geologist, formerly State Oil and Gas Supervisor of California.

It Tells you:
- How to locate and space oil wells properly;
- Methods of drilling wells;
- How to test wells;
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- How to evaluate oil wells;
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- Examples of efficient development of a new field.

200 pages, pocket size, flexible, 59 illustrations $3.00. Check with order.

For sale by
National Petroleum News
817 Caxton Bldg.-Cleveland, Ohio

Industrial Notes

Gardner Governor Co., Quincy, Ill., manufacturer of pumps, governors and compressors, has developed an improved power pump, on which it has patent pending. The new idea is an entirely enclosed power end designed to bring about flood lubrication from a single oil reservoir, thus eliminating the necessity of frequent oiling and greasing of the pump. The main driving gear is now mounted at the middle of a main shaft, instead of on one end of a crankshaft, which places the burden of pumping on larger bearings to which thorough lubrication is assured by the new lubricating principle, the company claims.

Bulletin EP-1 describes the improved pumps.

* * *

Poole Engineering & Machine Co., Baltimore, Md., recently brought out two new types of reduction gears known as their type H and type K. Gears and pinions are enclosed in a cast iron horizontally split casing with bearing bosses integral with the top and bottom halves of casing. Casing joints are ground to insure their being oil tight. For low speed drives, thorough lubrication, the company claims, is obtained by an improved splash and gravity system, and for turbine and other high speed drives, an oil pump and cooler is provided.

* * *

C. J. Tagliabue Mfg. Co., Brooklyn, N. Y., has expanded its service and created two new departments on account of the demand for its engineering services. Engineering research will be conducted as the engineering research department, of which Victor Wichum, M. E., chief engineer, will be in charge. Development work on indicating, recording and controlling instruments, will be carried on in the experimental department, headed by Frank Bast. William C. Begeebing is head of the automatic controller, dial indicating and recording thermometer division.

* * *

Curtis Pneumatic Mchy. Co., St. Louis, Mo., manufacturer of air compressors, cranes, air hoists and trolleys, will exhibit at the spring conventions of both Independent marketers associations at Kansas City and Chicago, its two stage compressor, one compressor of which will be in operation showing how the Curtis controlled splash oiling system operates and why it furnishes Curtis air free from oil, the company says. It will also show its new 1925 model air and water stand.

* * *

Chicago Bridge & Iron Works, Chicago, announces the standardization of the Wiggins floating roof, and that evaporation tests have shown that the savings predicted for this roof were underestimated.

Baltimore Gas Engineering Corp., Charleston, W. Va., announces that the Gasoline Recovery Corp., Charleston, patentee of the charcoal absorption process of natural gasoline extraction, has established two new sales and service offices, one at Tulsa, Okla., in the Wright Bldg., and the other at Los Angeles, Calif. V. C. Canter, who has been identified with the charcoal process almost from the start, has been appointed manager of the Tulsa office. C. E. Lermond will be associated with Mr. Canter. Richard C. Alden, formerly with Chestnut & Smith Co., and more recently with Landreth Gasoline Co. as superintendent, will manage the Los Angeles office.

* * *

Nuway Boiler & Engineering Co., Chicago, Ill., has off the press a bulletin discussing boiler water circulation. It deals with the importance of rapid circulation of boiler water, the effect of smaller fire tubes, increased staggering and greater space between tubes, the use of baffle and end plates and contains a table showing sizes of chimneys required for various sizes of boilers. Copies of the bulletin may be obtained free by writing to the company at 53 West Jackson Blvd.

* * *

W. A. Jones Foundry & Machine Co., Chicago, has just published a 448-page catalog, No. 30, which contains data on power transmission machinery, including cut gears, cast gears, spur gear speed reducers, enclosed worm gear drives, cast iron pulleys, friction clutches, sprocket wheels, hangers, pillow blocks, couplings, etc. Copies may be had free by addressing the company at 51 West Roosevelt Rd.

* * *

The Heil Co., Milwaukee, Wis., has appointed Gustav Schaefer Wagon Co., Cleveland, O. as its distributor for Heil dump bodies, Hydro hoists and compartment truck tanks in Cleveland territory. Heil has also appointed Sid. Schultze, 128 E. Main St., Louisville, Ky. as its distributor in Louisville territory.

* * *

The C. U. Williams Co., Bloomington, Ill., manufacturer of Williams Oil-O-Matic burners, has awarded the Austin Co., Cleveland, O. a contract covering the design and construction of a new unit to their plant at Bloomington, Ill. The new unit will have 30,000 square feet of floor space.

* * *

Graver Corp., East Chicago, Ind., has moved its Mid-Continent office at Tulsa to a more central location, at 810 Atlas Bldg. The office remains in charge of Charles Marner, formerly chief engineer of the company.

Dealer Mixes Oil, Foods Cottages Makes Profit

Trammell Resolution Dead and Buried

By Special Correspondent

WASHINGTON, March 13.—Lest there be some who do not remember the parliamentary fact that all things introduced in a given congress die with that congress, it may be remarked that the Trammell resolution calling for another investigation of the price of gasoline died with the sixty eighth congress at noon March 4. The president called the senate in extra session at noon March 4 and the Florida senator could have re-introduced his resolution but he did not.

It may be he refrained from doing so because the coalition that had the senate of the sixty eighth congress by the throat has had its grip greatly loosened, if not entirely broken. In addition it became known at the end of the session that President Coolidge, by sending the report of the Federal Trade Commission to the Senate, in answer to another Trammell resolution plainly indicated he thought another inquiry was not needed and would openly oppose the adoption of a resolution instituting one, although his consent would not be needed if the senate cared to do as it had done, when it instituted the Teapot Dome inquiry.

Senator Trammell contended himself with persuading the senate to waste a few more dollars by printing the trade commission's own summary of its report, in the congressional Record.

Californian Backs Up on Retroactive Tax

LOS ANGELES, March 13.—The California senate bill amending the gasoline tax act of 1923 by increasing the amount of the tax from 2 to 3 cents per gallon, isn't to be retroactive to Sept. 30, 1923, its author, Senator Breed, asserts. The amending bill as printed, contains the 1923 date. The retroactive feature is regarded as confiscatory and therefore illegal. It would be impossible for oil companies to collect 1 cent additional tax.

SAN FRANCISCO, CAL., March 13.—"A fine example of a progressive reseller who studies his local need and adapts his offering to the public to meet it," is the way a recent edition of "The Record," official house organ of the Associated Oil Co. of this city, describes O. M. Long, proprietor of Long's Service Station at San Luis Obispo, Calif., and distributor of Associated gasoline, lubricating oil and greases.

Mr. Long, who opened his service station in June, 1918, not only carries a complete line of oil products in stock, but also a complete line of automobile accessories, camp supplies and groceries for the convenience of tourists and customers. Five years after he built his station, Mr. Long erected six "Kosy Kamp Cottages" and equipped them completely with stationary beds, gas plates, water facilities and rest rooms, so that tourists and motorists who travel from San Francisco to Los Angeles can stop there over night if they do not feel dressed just right for hotel surroundings or prefer the informality of the cottage. There is free camping ground for those who bring their own tents.

This venture, in addition to the gasoline business, has brought Mr. Long a profitable income and he states that anyone undertaking a similar development who is willing to give good service to patrons, can hardly help from enjoying a profitable return, according to C. E. Curran, agent for the Associated company at San Luis Obispo.

F. P. WHITFIELD DIES

TULSA, March 13.—Frank P. Whitfield, of the Torch Oil Co., St. Louis, who is well known in refining and marketing circles, died suddenly at St. Louis on March 8. The body was taken to Chicago for the funeral which was on March 10. Before organizing the Torch company with H. G. Hedgcock, Mr. Whitfield was with the Indiahoma Refining Co., and at one time with the General Refining Co.

Wofford Oil Celebrates Woco-Pep Birthday

BIRMINGHAM, ALA., March 14.—The annual celebration of Wofford Oil Co.'s birthday, which has developed into quite an event in motor circles at Birmingham and in Alabama, will be observed on March 15 for the benefit of motorists and on March 18 for the benefit of employes of the company, officials of the company announce.

On the former date, every customer visiting Woco-Pep stations will be presented with a "family souvenir" package containing novelties for the entire family, and on the latter day, all employes of the company, including agents from Tennessee, Georgia and Alabama, as well as local filling station operators, will be guests of G. T. Wofford, president, at an all-day entertainment and sales conference. The celebration will observe the twenty-second anniversary of the founding of the Wofford company, and the seventh anniversary of the introduction of Woco-Pep motor fuel, which was first sold on March 15, 1918.

Employes will assemble at the home plant at Birmingham on the day of the party, and motion pictures will be taken in the morning, which will be followed by a parade through the business section, a luncheon at noon, sales conference in the afternoon, a banquet at the Tutwiler Hotel, and a theatre party in the evening. The custom was originated by Mr. Wofford first in 1923.

DES MOINES,—The growing importance of state jobbers meeting was emphasized by L. V. Nicholas president of the National Petroleum Marketers' Association here a few days ago, just after he had stood before the assembly of Iowa's Independent oil men. "This state meeting is better attended by oil men than the national convention in Kansas City where I was elected president of the N. P. M. A. in 1922," he said.

Refining (Treating) of Cracked Distillates in the Vapor Phase

By T. T. Gray and M. R. Mandelbaum
Gray Process Corp., New York
Delivered at the Western Petroleum Refiners Meeting March 4, 1925

THERE can be no denying the fact that, in most refineries, cracking has been advanced to a point well beyond that attained by the art of refining the cracked products. Fundamentally this is probably due to the fact that methods of refining previously in use for the treatment of straight run products served after a fashion.

There are several groups or systems of hydrocarbon families, which are classified according to the manner in which it is believed that the carbon atoms in these substances are linked together. Within these groups there is a further classification according to chemical reactivity.

For our purpose we may consider the latter classification as one into stable or comparatively unreactive substances and others of varying degrees of instability. All cracked products must contain unstable as well as stable substances.

Of course, unstable substances have no place in nature—in inorganic as well as organic evolution the tendency is inevitably toward the formation of unreactive, stable, enduring forms from impermanent, unstable ones.

Instability is Relative

Instability is a relative term—the stability or instability of a substance depends on the tests to which it is subjected. Things ordinarily considered quite stable are shattered into fragments by dynamite explosions and earthquakes. Let us then classify the constituents which may be found in cracked gasoline and kerosene in the order of their diminishing stability under these conditions—standing, representing storage conditions; in contact with concentrated sulfuric acid, representing classical refining methods; and when the vapors containing them are passed through an adsorptive catalyst, such as fuller's earth. The last represents the treatment undergone by cracked distillates in vapor phase refining. For a better grasp of the situation we will also consider the desirability or undesirability of their occurrence in the refined product.

From the table below it is apparent that the chief source of trouble among the hydrocarbons present in cracked distillates is the diolefins and similar compounds present to a small amount in ordinary cracked distillates, although they may be formed to a greater extent by varying cracking conditions according to methods for their formation.

Paraffin and naphthene hydrocarbons are so stable that they may well be called inert under ordinary conditions. The aromatics are present, in the case of Mid-Continent distillates, to a very small extent. Olefins are stable on standing and are desirable constituents of motor fuels. It should be noted that, whereas the olefins may be present to as much as 40 per cent, diolefins and kindred substances probably rarely occur as high as 1 per cent. The instability of diolefins causes them to deposit gums and the distillate containing them to go off color on standing.

On evaporation they also deposit gums. These are caused by polymerization of diolefins or their conversion to substances of higher molecular weight. Instances of polymerization tendencies of the diolefins may be seen in isoprene and dimethylbutadiene, low boiling liquids which on standing even out of contact with the air slowly change into rubberlike solids.

Dimethylbutadiene Bad Actor

We have found that if a cracked distillate, purified by vapor phase refining, be exposed to light alongside of a similar distillate, to which a small percentage (0.5 per cent) of dimethylbutadiene has been added, the latter will go off color while the former is still colorless.

On comparing the reactions of these types of substances with sulfuric acid, the chemical objections to that reagent as a refining method are clearly seen. Although the paraffin and naphthene hydrocarbons are untouched, and the sulfonation of the aromatics under conditions of acid treating is far from complete, the reaction of the acid with the desirable olefins results in the removal of appreciable amounts of these substances from the gasoline and kerosene.

This is brought about in a two-fold manner. First there is an absorption of the lower boiling members of this series by the acid, which results in a shrinkage of volume of the distillate treated, and may be called the volumetric loss. In addition, sulfuric acid has the property of causing the polymerization of the olefins into higher boiling substances which are, however, soluble in the oil and are, therefore, not apparent in the volumetric loss.

Due, however, to their boiling point they are removed from the boiling point range of gasoline, and represent a loss in the amount of endpoint gasoline obtainable.

This can easily be demonstrated by treating end-point gasoline from a cracked distillate with acid and noting the rise in end-point of the treated product. The magnitude of these losses varies with the cracked product that is being treated, the volumetric and polymer losses each running from about 2 to 5 per cent of the gasoline for average pressure distillates and much higher in the case of low pressure and vapor phase products.

Heavy Treatment Increases Loss

In general, for a given distillate, they will increase with the amount of acid, the time of treatment, and the percentage of gasoline in the distillate.

These represent only the chemical disadvantages of acid treatment. To them must be added mechanical losses, particularly where batch agitation is resorted to; the inconvenience of disposing of the acid sludge, and high depreciation costs on treaters and on rerun stills and bubble towers due to sulfur dioxide evolved in the distillation.

Vapor phase refining overcomes these difficulties. First, the diolefins alone are polymerized and removed, the olefins passing through practically unchanged. This can be shown by making synthetic mixtures, containing olefins and others containing diolefins, and passing them through apparatus of the type to be described. It will be found, using iodine numbers or a similar property as a means of control, that the former substances pass through practically unchanged while the latter are removed.

Moreover, there is no mechanical or chemical treatment involved, although the process is dependent on a chemical reaction; and the operation and maintenance of apparatus are no more costly than those involved in the rerun distillation which is ordinarily necessary to prepare endpoint gasoline from the cracked products.

The refining agent used in the vapor phase process is an adsorption catalyst. Activated carbon, silica gel, bauxite, and fuller's earth are examples of these substances. They possess the property of absorbing the unstable substances present in the vapors of cracked distillates and subjecting their molecules to a terrific pressure. It is this pressure, which is effective only within the pores of the

Hydrocarbons	Stability: Standing	Stability: H_2SO_4	Fuller's Earth (Vapor Phase)	Desirability
Paraffins, Naphthenes	Stable	Stable	Stable	Desirable
Aromatics	Stable	Sulfonated	Stable	Desirable
Olefins	Stable	Absorbed and Polymerized	Stable	Desirable
Diolefins	Unstable	Polymerized to Tars	Polymerized	Undesirable

catalyst and is not detectable by external physical means, that brings about the polymerization of the unstable substances.

Boiling Point Raised

Polymerization results in raising their boiling points so far above those of the original unstable substances that they may be separated from the distilling vapors. In this way the unstable substances which ordinarily undergo changes on standing are caused to go through these changes almost instantaneously and are thus eliminated from the distillate.

Before discussing the advantages, limitations, costs and large scale manipulation of vapor phase refining, it would be well to fix the major details by reference to the eight-ton polymerizer in operation at the refinery of the Barnsdall Refining Co.

The clay charge at present is six tons, three quarters of the capacity of the tower. Half roast Georgia fuller's earth, 60-90 mesh, is used. This amount has been found sufficient to refine over 7800 barrels of pressure gasoline and kerosene or more than 1300 barrels of gasoline and kerosene per ton of fuller's earth, although the highest yield obtained on a small scale in the laboratory on this distillate has been 600 barrels per ton.

Will Not Meet Doctor Test

The refined distillate of 28 color is satisfactory in all ways except with regard to the doctor test. In this respect, however, it was not necessary to vary the procedure customary at Barnsdall for acid treated products—the distillate is blended with straight run in the proportion in which the two are marketed and the mixture is sweetened by the hypochlorite method.

A question always raised in the discussion of vapor phase refining is the pressure built up by the bed of fuller's earth. In the Barnsdall tower, running through six tons of earth, corresponding to a depth of five feet in the tower, this amounts to about two pounds.

In the plans for the installation at Barnsdall, provision had been made for conveying the clay by blowers—a highly practical method in use in other connections elsewhere.

This part of the equipment has not yet been installed, however, and as a temporary expedient the earth is being hoisted to the platform above the polymerizer in bags and dumped into the clay chamber by hand. Even by this method it is possible to empty and refill the tower in four hours, five laborers being required.

An important factor to this end is the fact that at the conclusion of a run the clay is absolutely dry, and, the flange at the bottom being removed, flows out like so much unused clay.

Steam to Avoid Fire

It is only necessary, in order to avoid fires due to the sudden contact of the hot earth with air, to steam it to reduce its temperature to about 300 F. While on the subject of fuller's earth, it should be mentioned that although the half roast Georgia clay is used at Barnsdall, earths from Texas, Illinois and Florida, some of them considerably cheaper than the Georgia clay, have been used successfully. Furthermore, green earth has been applied in the laboratory and found to give as good results as the half roast. 30-60 and 60-90 mesh fuller's earth have both been used.

At Barnsdall the spent clay from the polymerizer has not been segregated but has been added to the No. 1 clay from the filters and reburned and used in the filters, where it has been found to be as efficient as No. 1½ clay. For a refinery not equipped with a filter plant however as well as for those so equipped, if there is room, it is advised that a clay burner be installed to handle only clay from the tower.

However, in many cases it will prove economical even to discard the once-used clay. Clay from a run at Barnsdall has been roasted in a multiple hearth-type furnace at a rather higher temperature than that ordinarily used for fuller's earth from filters, and the product, very little darker in color than the green clay, has given better results on the laboratory scale than the original half-roast clay.

Can be Used Many Times

It is planned to reroast and use this clay as many times as possible. The roasting at fixed temperatures is being carried out with the co-operation of one of the builders of this type of equipment. The results so far obtained make it appear that the only limit to the number of times the clay will be available for use will be the slight disintegration it undergoes during each roasting.

As the single polymerizer already installed at Barnsdall is insufficient to handle all of their pressure distillate an opportunity is at hand to compare the vapor phase refining process with acid treating, as they are carried on side by side. Over a considerable period a certain amount of pressure distillate handled through the polymerizer yielded 7872 barrels of pressure gasoline.

During the same period the corresponding amount of pressure distillate treated by acid yielded 7424 barrels of the gasoline with no appreciable difference in kerosene production. This difference is accounted for partly by the volumetric loss due to acid treatment and partly to the saving in polymer loss due to the use of the Gray process.

Allowing for gasoline at 12½ cents a gallon, and making an allowance for the added residue in the case of acid treating due to the polymer loss on the basis of 239 barrels of bottoms at 3½ cents a gallon, the Gray process shows a profit due to saving in products alone of $2,021 during this period, more than 25 cents per barrel of pressure gasoline and kerosene. The saving in products amounts to a little more than 6 per cent of the gasoline produced by acid treatment.

When the comparison is extended to include operating costs the results are even more startling.

Acid treatment (based on average Mid-Continent costs for similar pressure distillates)		$1100.00
Gray Process (Barnsdall method of accounting for clay cost, on basis of 6 tons of fuller's earth for 7872 bbls. gasoline)		
Depreciation on clay @25%	$45.00	
Burning 6 ton clay @ $1.00	6.00	
Handling 6 tons clay @ $1.00	6.00	
Cost due to clay	$57.00	
Labor loading and unloading 6 tons in polymerizer	11.00	
Depreciation (at 10% per annum) and interest (at 6%) on cost of polymerizer completely installed	71.00	
Total operating costs Gray Process		139.00
Saving in operating cost due to Gray Process		961.00
Profit due to increased value of products (see above)		2021.00
Total operating profit, Gray process over Acid for 7872 bbls. pressure gasoline		$2982.00
For 1 bbl. pressure gasoline		$ .38
Costs		
Acid treating—1000 bbls. at $.10 per bbl.	$100.00	
Gray Process—Cost of handling 600 bbls. of gasoline at 400 bbls. per ton of clay		
1.5 tons at $5.00 per ton	7.50	
Depreciation and interest	6.67	
Labor	2.75	
	$16.92	
Saving in operating cost—Gray Process		$ 83.08

Depreciation and interest amount to well under 1 cent per barrel of pressure distillate, and are partially made up by the decrease in tankage necessary. The clay cost figures, $7.50 per ton for depreciation and $1.00 each for handling and reburning, in our estimation, are high. Good refinery practice has been to estimate a cost of about $5.00 per ton of clay including material cost, handling, reburning and depreciation for each use in the filters, based on clay at $30 per ton. Judging from the results so far obtained there should be no reason why the fuller's earth should be used fewer times than in liquid filtration, and as clays costing less than $30 delivered in the Mid-Continent field can be used, the cost of $5.00 per ton per run seems ample to us.

1325 Barrels Per Ton

The yield of distillate treated per ton of fuller's earth for the figures has been taken according to latest advices from Barnsdall at 1325 barrels per ton. It will be seen from the figures given that the operating cost of the vapor phase process is less than 2 cents per barrel of product. This leaves a considerable margin on the safe side even when allowance is made for royalty of 6 cents per barrel of product. (Not of pressure distillate). In addition, the profit of more than 25 cents per barrel due to the greater yield of gasoline produced by the Gray process indicates a net gain over acid treating of more than 38 cents per barrel.

In calculating the likely saving for other refiners it must be understood that every refinery's output of pressure distillate varies from every other in two important characteristics—the yield of treated gasoline and kerosene obtainable per ton of fuller's earth and the losses on acid treat-

ing. The latter will depend on several factors.

(1) Cracking conditions of temperature and pressure, as well as the nature of the charging stock to the pressure still.

(2) Strength of treatment; that is, ratio of acid to oil. The stronger the treatment necessary, the greater the losses.

(3) Time of contact of acid with distillate; longer periods causing greater losses.

(4) Whether batch or continuous treatment is used.

(5) When the gasoline cut alone is treated, losses of gasoline—the valuable constituent—will be much higher.

(6) If pressure distillate or pressure gasoline is blended with straight run products before acid treatment the apparent losses will be lower per barrel treated. Actual losses of pressure distillate will be only slightly reduced in this way, however, and this will probably be more than overcome by corresponding losses of straight run products.

In general, it is difficult to predict, except on the basis of a careful laboratory examination of the pressure distillate (and even then the conclusions arrived at are not always borne out in practice) what the losses on a given product will be. Taking into consideration the volumetric and polymer losses, however, and deducting the slight loss (usually less than 1 per cent) incurred in vapor phase treatment, it seems safe to estimate that the average gain in gasoline by the fuller's earth treatment will be, for a pressure distillate running about 60 per cent of gasoline, about 6 per cent of the gasoline or about 3.6 per cent of the pressure distillate. What such a saving amounts to in terms of dollars and cents will be shown in the next table.

Yield Varies With Distillate

A consideration of the differences in yield per ton of fuller's earth must first be undertaken. This, too, will vary with the distillate, its source and method of cracking. Laboratory tests have been made on a large number of cracked distillates prepared from gas oil and fuel oil from various crudes by different cracking processes. Included in those successfully treated were distillates produced as by-products in the gasification of gas oil, which distillates on acid treating lost as much as 20 per cent. The yields of stable good colored distillate obtained in the laboratory ranged from 100 to 600 barrels per ton. A few distillates have been found hard to treat by the use of fuller's earth alone except at very low yields. Each case of these exceptions requires a separate consideration, and will not be discussed here.

The large majority of pressure distillates, however, give satisfactory results with fuller's earth alone and it is these that are typified in the table. In selecting a representative example we are further hampered by the fact that laboratory figures are not necessarily translatable to refinery practice. Barnsdall pressure distillate has been treated in the laboratory at 600 barrels per ton of clay; but the same distillate with the same clay yielded over 1300 barrels in practice. This is not out of line with our experience. In each case it has been observed that the yield per ton a given distillate used in the same clay has increased as the size of the apparatus increased.

For the figures below we have assumed a yield of 400 barrels per ton (less than one-third of what is being obtained at Barnsdall) which in our opinion errs on the side of conservatism. We have assumed a pressure distillate running 60 per cent of gasoline, a volumetric treating loss of 2 per cent and a saving by elimination of polymer loss of an additional 2.1 per cent of the pressure distillate, making a net gain of 3.4 per cent of the pressure distillate or 6 per cent of the gasoline produced by the old method. Kerosene output is not considered, as it is approximately equal by both methods. Acid treating costs are taken as 10 cents per barrel of pressure distillate. It will be seen that in this way a conservative estimate on a 1000 barrel plant after deduction of royalty shows a net profit of $206. per day, or over $6000 per month by the Gray process over acid treatment. The investment for the installation of the Gray process in a plant of this size would be approximately $15,000. Depreciation and interest on this amount calculated respectively at 10 and 6 per cent annually will come to only $200 per month, $.007 per barrel of pressure distillate. For larger plants the profit would be in proportion, but the investment would be lower per barrel capacity as the size of the plant increased.

Profit to Refiner Running 1000 Bbls. of Pressure Distillate (60% Gasoline) per Day. Gray Polymerizer Compared with Acid Treatment

Products	Acid Treating	Gray Process	
Volumetric Treating Loss (2%)	20 bbls.		
Charge to rerun still	980	1000	
Yield of gasoline (on loss of total sum of 3.4% of pressure distillate)	566	600	
Residue	414	400	
Value of gasoline (at 12½c per gal.)	$2971.50	$3150.00	
Value of Residue (at 3½c per gal.)	608.58	588.00	
Return from products	3579.08	3738.00	
Gain through increased value of products (Gray Process)			158.92
Total Profit Before Royalty			242.00
Royalty on 600 bbls. at $.06 per bbl.			36.00
Net profit per day on 1000 bbls. pressure distillate			206.00
Profit after royalty on 1 bbl. of pressure gasoline			.34
Net profit per Month			$6180.00

The quality of products obtained by vapor phase refining where it is applicable is equal to that necessary for competitive commercial sale. As far as color and color stability goes the product can usually be made far superior to that obtained by acid treatment. Gum is greatly reduced by vapor phase refining. In the case of refined oils it has been possible to prepare in this way kerosenes from cracked distillates which have passed the long time burning test—an impossibility with acid treatment.

Using fuller's earth alone as a catalyst an ordinarily sour distillate is sour to the doctor after treatment by the Gray process and requires sweetening. Here also, however, it yields nothing to sulfuric acid, as acid treated products must also be sweetened. At Barnsdall hypochlorite is used. Doctor solution may be used before or after distillation. In some cases, of low sulphur pressure distillates, alkali wash alone has been sufficient.

Cannon and Stevens in Grease Business

CLEVELAND, March 12.—Two of the oldest veterans of the oil industry have made a partnership and have started a grease business at Kansas City. They are A. J. Stevens, founder of the Stevens Grease & Oil Co. of Cleveland and one of the oldest grease men in the country, and J. A. Cannon, an old Standard Oil man, later National Refining Co. and Sinclair Refining Co. On Feb. 28, they took over with the approval of the federal court of western Missouri, the assets and plant equipment of the Stevens Grease & Oil Co.'s western branch at Kansas City. The Stevens Grease & Oil Co. had closed down that branch some time before but it continues to operate from its main plant and headquarters at Cleveland.

Mr. Stevens and Mr. Cannon have incorporated a company with $60,000 capital fully paid and known as the A. J. Stevens Grease & Oil Co. Mr. Stevens will be in charge of manufacturing and Mr. Cannon in charge of the office sales. Both are lubricating experts and have specialized on that all their lives. Mr. Stevens started in the grease business as a boy with the old Charles H. Moore Oil Co. at Cincinnati and later had his own plant which he left a few years ago.

Mr. Cannon was lubricating oil man with the old Standard Oil organization for years before its dissolution—since that time he has been continuing as a lubricating expert—more recently with the Sinclair Refining Co., in charge of lubricating sales, and later still with the Atchison Graphite Co. They'll make a complete line of greases.

Walsh Heads K. C. Club

KANSAS CITY, March 12.—J. L. Walsh, sales manager for the Continental Oil Co (Mutual) was recently elected president of the Kansas City Oil Men's Club for 1925. E. F. Bergolte of the Atlas Petroleum Co. was made vice president and R. M Forbes of the Acme Petroleum Co., treasurer. George Allee, secretary of the Missouri Oil Men's Association was elected secretary.

In addition to the officers the following men were placed on the board of governors: Ben Bush, Diamond Refining Co.; R. R. Irwin, White Eagle Oil & Refining Co.; J. R. Battenfeld, Battenfeld Grease & Oil Co.; L. C. Hickox, Paramount Petroleum Co.

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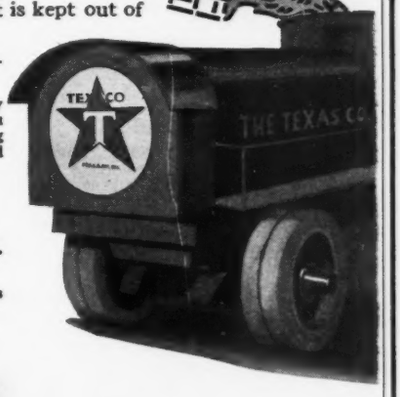

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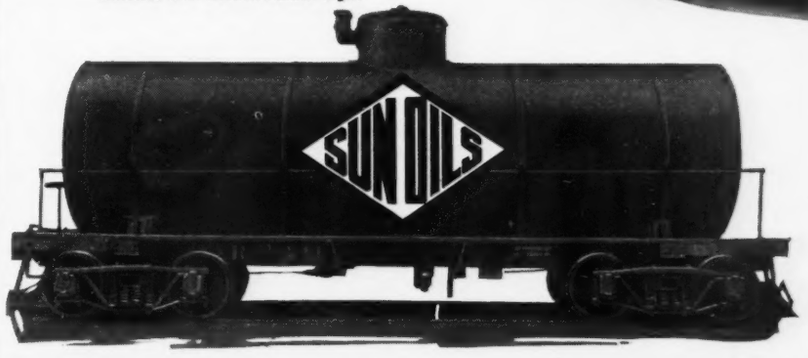

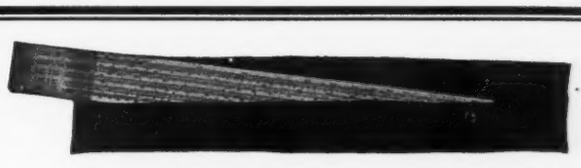

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Oil Patents Issued in January

Production

Dehydrating Agent

No. 1,523,220; Jan. 13, 1925; Walter H. Kaul, West Columbia, Tex. Method of reagent for dehydrating oils. Class 196, sub-class 4. Filed March 28, 1922; 10 claims.

This improvement is in a dehydrating and purifying agent for treating oils comprising a heavy, vicous organic liquid, such as molasses, having a relatively high affinity for water and creosote in the approximate proportions of 90 per cent of the former and 10 per cent of the latter.

Dehydrating with Molasses

No. 1,523,219; Jan. 13, 1925; Walter H. Kaul, Mexia, Tex. Method of treating oil. Class 196, sub-class 4. Filed Jan. 25, 1922; five claims.

To dehydrate crude oil before distillation, the crude is brought into intimate contact with molasses, the mixture heated and after filtering, the water and molasses are allowed to separate out of the mixture.

To Purify Crude Oil

No. 1,523,077; Jan. 13, 1925; Thomas M. Melott, Shawnee, Okla. Process and apparatus for treating oil. Class 196, subclass 5. Filed March 13, 1923; two claims.

To remove impurities from crude oil before distillation this process includes supplying the impure oil continuously to a container, conducting said oil from the bottom of the container to a heating coil, heating said oil to a temperature lower than that sufficient to form gas, conducting the heated oil back to the top of the tank for direct mixture with the incoming impure oil, drawing off the purified oil from the top of the container and drawing off the impurities from the lower portion of the tank, the whole as a continuous process.

Production Test Method

No. 1,522,197; Jan. 6, 1925; George A. Macready, Los Angeles, Cal. Method for making production tests in well drilling. Class 166, sub-class 21. Filed Aug. 2, 1923; 11 claims. (original application filed July 25, 1922.)

To determine the proper location in which to seal a well for cutting off the water from above the oil bearing strata, this method comprises lowering a packer into the well to engage a previously formed seat, maintaining a circulation of clean water down through the packer apparatus and up through the lower portion of the well and into the packer apparatus to wash mud from the well wall below the packer without scouring the wall of the well above the packer, and constantly moving parts of the packer apparatus while the circulation is being maintained.

Refining

Fractionating Tower

No. 1,523,497; Jan. 20, 1925; Herschel G. Smith, Swarthmore, Pa. Apparatus for fractionation. Class 196, sub-class 139. Filed Dec. 18, 1920; (assigned to The Atlantic Refining Co., Philadelphia); one claim.

To better separate sharply defined fractions from the vapors coming from a still, this apparatus includes a dephlegmating tower, deflector members spaced vertically from each other in said tower and having their peripheries in liquid-tight contact with said tower, said deflector members extending downwardly and inwardly to openings, packing material in said tower vertically continuous through said openings, a condenser, a vapor line extending from said tower above said packing to said condenser, and means for returning from the outlet of said condenser to said tower above said packing condensate discharged by said condenser.

Refining With Fullers Earth

No. 1,523,053; Jan. 13, 1925; Ulysses F. Clemons, Marshall, Okla. Apparatus for refining hydrocarbon oils. Class 196, sub-class 103. Filed June 7, 1923; one claim.

To provide a large capacity still having fuller's earth in the dome arranged to prevent the earth from dropping into the oil beneath, this oil still comprises heating means for the tank, a dome for the tank of large diameter and height relative to the tank and having opposed sides which extend considerably below the top of the tank, a foraminous floor for the dome arranged so that the space between the floor and the surface of the oil in the tank is of the same depth as the space between the surface of the oil and the top of the tank, a bed of fuller's earth on the floor, an outlet at the top of the dome, a pan in the dome in spaced relation to and beneath the floor so as to catch any particles of the earth dropping from the dome, and means to connect said pan to the tank whereby to afford spaces between the margin of the pan and the top of the tank to permit the vapors to enter the dome.

Another Dubbs Patent

No. 1,522,425; Jan. 6, 1925; Carbon P. Dubbs, Wilmette, Ill. Process of treating oils. Class 196, sub-class 41. Filed Dec. 12, 1923; (assigned to Universal Oil Products Co., Chicago); eight claims.

To lessen carbon formation in the decomposition of hydrocarbon oils to form lower boiling products, this process comprises passing a body of oil in a restricted stream through a continuous elongated passageway where said oil receives its cracking heat transferring the highly heated oil while in a substantially liquid condition to an enlarged chamber where vaporization of a portion of the oil occurs, discharging all unvaporized oil from said chamber without permitting the same to again enter said elongated passageway, discharging vapors from said chamber to a reflux condenser, passing charging stock to said reflux condenser to aid in the condensation of the insufficiently cracked vapors passing therethrough and to preheat the charging stock, discharging uncondensed vapors from the reflux condenser, removing condensate and charging stock from the reflux condenser and introducing the same together with an independent supply of charging stock to the inlet side of said elongated continuous passageway to travel therethrough, and maintaining a superatmospheric pressure of about 120 lbs. on the oil undergoing conversion.

New Still Design

No. 1,521,601; Jan. 6, 1925; Max F. De Bajligethy, Houston, Tex. Still. Class 196, sub-class 99. Filed April 7, 1922; six claims.

To better extract the low-boiling from the heavy elements, this apparatus comprises an oil cracking still including a boiler, a plurality of domes upstanding therefrom whose upper ends are closed, flues within said domes each having an inlet opening, an outlet conduit within the boiler connected to said flues, a condensing coil outside of the boiler in which said outlet terminates, foraminated baffles around the flues within the domes and peripheral, heat radiators carried by said domes.

Shale

Hydrogenation In Shale Distillation

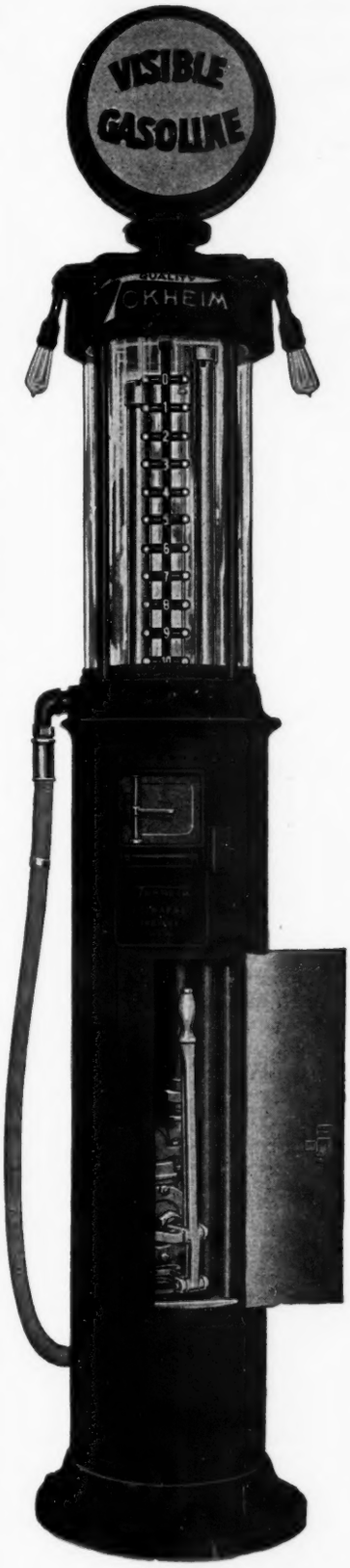
No. 1,523,542; January 20, 1925; George F. Forwood, London, Eng. Treatment and production of hydrocarbons. Class 202, sub-class 16. Filed July 11, 1921; (assigned to United Kingdom Oil Co., Ltd., London, Eng.); two claims.

To distil, decompose, and hydrogenate shale oil, this process comprises heating a retort, filled with shale to about 400 degrees C. at the upper part and to about 600 degrees C. at the lower part, conveying steam to the interior of the retort, passing the oil distilled from the shale at the upper portion of the retort together with the steam downwardly through the partially spent shale to crack said oil and then through the spent shale at the lower part of the retort to decompose the steam by means of the carbon in the spent shale and thereby produce hydrogen, using said hydrogen to hydrogenate the unsaturated bodies contained in the shale oil, and drawing away the products from the lower end of the retort.

Shale Refining Process

No. 1,522,985; Jan. 13, 1925; George A. Taff, Colorado Springs, Colo. Apparatus for extracting petroleum from shale and other minerals. Class 202, sub-class 14. Filed Feb. 14, 1921; two claims.

To extract the volatile constitutents from oil bearing shale, this apparatus includes a retort having a muffle, an agitating conveyor running through said muffle including spaced chains, rectangular frames mounted in aligned links of said chains, an inclined agitator blade



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No. 290—5 Gal. Hand Operated

Send for our illustrated Bulletins.

Tokheim Oil Tank & Pump Co.
Ft. Wayne, Ind. U. S. A.

QUALITY TOKHEIM

The RHODES is the Original Pre-filled Oil Dispenser

A Clean Station Invites Patronage

Today every filling station may be made a model of cleanliness.

Science and ingenuity made safe and clean the handling of gasoline, and they have now made it possible to dispense oil by a clean and rapid method.

Improved Rhodes Motor Oil Dispensers in their metal carrier trays alongside your gas pumps present a business-like appearance of shining uniformity.

These prefilled, visible dispensers, of heavy annealed glass and bright metal are easily kept looking attractive. The metal carrier is heavily welded, making it practically one piece of metal. The bottom of the tray is open so that no dirt can collect there.

Dispense oil the Rhodes-Way and there is no need of slopping oil on the motor or smearing the fenders because, with the patent air vent, you can regulate the flow.

A clean station invites patronage. Clean up your oil dispensing methods by getting Rhodes Dispensers. Then watch your gallonage grow.

JAY B. RHODES COMPANY
KALAMAZOO, MICHIGAN
Toronto St. Louis San Francisco

FIFTEEN YEARS AGO

The World's First Two-Stage Garage Compressor was Built by

THE GLOBE MANUFACTURING CO.

TODAY at the 25th milestone of the automobile industry GLOBE COMPRESSORS still lead in Efficiency, Dependability and Low Cost of Operation

The Simplex Two-Stage Complete Automatic Unit, Our Most Popular Type for Filling Station Service

GLOBE MANUFACTURING COMPANY
Battle Creek, Michigan

secured to sides of each frame and projecting below said frame.

Natural Gasoline

Stabilized Gasoline Patent

No. 1,523,314; Jan. 13, 1925; Harold E. Thompson, Clendenin, W. Va. Natural gas gasoline. Class 196, sub-class 15. Filed May 10, 1924; (assigned to Carbide & Carbon Chemicals Corp.); six claims. (Original application filed May 31, 1923.)

A new natural gas gasoline comprises upward of 25 per cent of butane, free from more volatile hydrocarbons, and having a vapor pressure not substantially in excess of 18 pounds per square inch at 100 F.

Another Thompson Patent

No. 1,523,313; Jan. 13, 1925; Harold E. Thompson, Clendenin, W. Va. Manufacture of natural gas gasoline. Class 196, sub-class 8. Filed May 31, 1923; (assigned to Carbide & Carbon Chemicals Corp.); nine claims.

To make a novel natural gas gasoline, the process includes making gasoline of predetermined vapor pressure from natural gas, and comprises treating the gas with an active solid absorbent in such manner that substantially all the butane and less volatile hydrocarbons are absorbed, liberating the absorbed material from the absorbent and rectifying it to produce a vaporous and a liquid fraction in such manner that no consistent occurs in substantial quantity in both said fractions.

Miscellaneous

To Filter Gasoline

No. 1,523,547; Jan. 20, 1925; Thomas LeVora, Iowa City, Ia. Gasoline-filtering compound. Class 196, sub-class 44. Filed July 22, 1920; two claims.

To better filter gasoline used for cleaning, a new filter medium is used comprising a mixture of seventy-five per cent of sodium hydroxide, seventeen and one-half per cent of sodium sulphate, four per cent of sodium carbonate, one and one-half per cent of sodium chloride, and a small amount of water.

NEW YORK,—Leod D. Becker, executive secretary of the American Association of Oil Burner Manufacturers, has announced to the oil burner industry and the oil industry as well, that the round trip ticket from almost any place in the United States to the convention in Chicago on April 1, 2 and 3, can be had for one and one half fares on the customary certificate plan by which the railroads serve conventions. He advises making early reservations at the Edgewater Beach Hotel either direct to the hotel management or through J. W. Owens, 564 West Adams street. Chicago.

LINCOLN, NEB.,—L. E. "Tiny" Adair who has handled tank car sales in Nebraska for the Mutual Oil Co., for a number of years has changed his connection. Now he is selling lubricating oil for the Pennsylvania Petroleum Co., of Kansas City.

Steel Barrel Institute Elects Officers

NEW YORK, March 12.—At a meeting of the Steel Barrel Manufacturers Institute, held here recently, the following officers were elected for the year: President, C. H. Draper, Draper Manufacturing Co., Cleveland; vice president, S. A. Bennett, Wilson & Bennett Manufacturing Co., Chicago; secretary-treasurer, D. S. Hunter, Cleveland.

Executive committee: J. L. Considine, Petroleum Iron Works, Sharon, Pa.; G. H. Roberts, American Steel Package Co., Defiance O.; Jacob Meurer, Meurer Steel Barrel Co., Inc., New York; G. A. Moore, Detroit Range Boiler & Steel Barrel Co., Detroit; F. H. Alger, Wheeling Steel Barrel Corp., Wheeling; S. A. Bennett and C. H. Draper.

At this meeting it was decided to publish a boklet of information which would be given wide spread distribution to users of steel barrels. This booklet to embody all I. C. C. specifications and railroad classification committee requirements as well as the industry standards and other information of value to users of steel barrels.

It was also decided to enforce, insofar as possible, the standard capacities agreed upon in co-operation with the United States Department of Commerce, which standards went into effect Jan. 1st of this year.

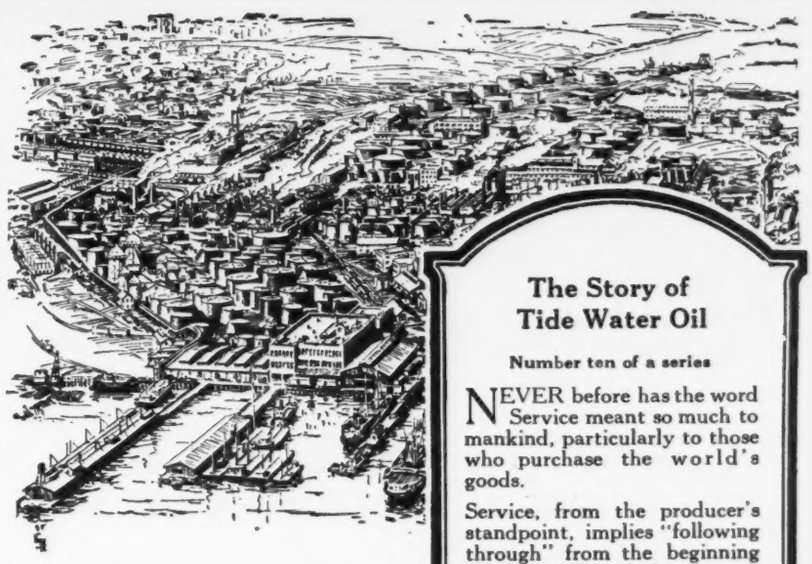
A committee on standardizations was appointed which will endeavor, during the year, to further standardize and refine features of design and construction which would be of benefit to barrel users.

The membership of the institute now embodies 24 manufacturers operating 29 plants.

Correction

On page 29 of the February 18th issue in an article entitled "Draw Tentative Truck Tank Specifications and Invite Criticisms" was a list of names purporting to be members of the sub-committee of the Inflammable Liquids Committee of the National Fire Protection Association which has truck tank specifications in charge. The list is incorrect. The names of the committee members are: H. E. Newell, National Board of Fire Underwriters, chairman; Dr. R. P. Anderson, representing the American Petroleum Institute; F. C. Epps, Tide Water Oil Co.; E. J. Smith, Underwriters' Laboratories, Chicago; and W. B. White, acting chairman, New York Board of Fire Underwriters.

SIOUX CITY, IA.—Levin Oil Co., which opened a service station here in November, reports doing well. It maintains bulk storage and is a carload dealer in Pennsylvania and Mid-Continent oils, according to I. H. Levin, general mangaer.



The Tide Water Refinery of Bayonne, N. J.

Tide Water offers to Jobbers, Wholesalers and Marketers

One hundred and fifty petroleum products of unsurpassed quality, refined to exact specifications—*plus* specialized service.

The Story of Tide Water Oil

Number ten of a series

NEVER before has the word Service meant so much to mankind, particularly to those who purchase the world's goods.

Service, from the producer's standpoint, implies "following through" from the beginning to the very end, whether the commodity offered for sale is legal advice or a bar of soap or a 250 ton locomotive.

True service must always be founded on the inherent quality of the product plus expert advice as to its correct application to industry.

Quality is *built into* Tide Water Products because of the surpassing excellence of the raw material employed and the wide knowledge gained through nearly a half century of refining experience.

And it is because of this we say we are *ready to serve*

Three Points of Interest to Every Buyer of Petroleum Products.

Quality

For nearly half a century Tide Water has held steadfast to the fundamental policy of complete, thorough refining to exact specifications. This is one of the reasons for the world wide demand for our pure Pennsylvania Cylinder Stocks, recognized throughout the entire industry for their true worth.

Refining

Intensive experimental and research work is always under way to improve our refining methods As a result we are constantly raising our standards of quality even when our existing standards are, in many cases, far in advance of the rest of the industry. All refining operations are controlled by a single, highly trained technical organization.

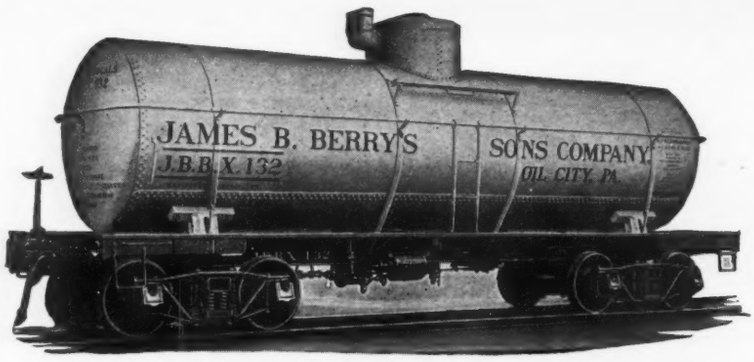
Service

Tide Water's specialized service to jobbers, wholesalers and marketers of petroleum products goes hand in hand with the absolute uniformity and unsurpassed quality of Tide Water Products. Specialized service means a keen interest in your marketing problems and helpful cooperation by our Sales and Refinery organizations at all times.

TIDE WATER OIL COMPANY

WHOLESALE DEPARTMENT

11 BROADWAY NEW YORK



MANY oil jobbers depend upon Berry's Sons for their supply of gasoline, kerosene and lubricating oils in tank cars.

For over thirty years Berry's Sons have been supplying oil jobbers with every kind of petroleum products at the best market prices.

Write, or wire our nearest office for quotations.

JAMES B. BERRY'S SONS COMPANY OF ILLINOIS

PETROLEUM PRODUCTS

Oil City, Pa. Chicago New York Boston
Philadelphia Tulsa London, Eng.

COUPON BOOKS

of Every Description

for the Filling Station

We will gladly send samples and prices upon request

Allison Coupon Co.

Indianapolis Indiana

Oil Fillers Labor Union Goes Out of Business

Staff Special

CHICAGO, March 12.—The labor union designed to meet the needs of service station employees and curb pump operators which came into being in August, 1924, is no longer in existence, according to information received from Frank Morrison, secretary of the American Federation of Labor, Washington D. C.

This was the first effort ever made to organize this class of labor in a union of its own, and when the first local was organized it created considerable comment.

The first local was in West Frankfort, Ill., a small town southeast of St. Louis, and it was known as Gas and Oil Fillers' Union No. 17743. It started off in a business like manner, arranged with employers for an eight-hour day, limiting a week's work to 56 hours and required all "pump boys" more than 16 years of age to get permit cards two days after starting to work, if their place of employment was to retain its good standing. However, no retailer of oil might employ a new man until he had considered the idle men listed with the secretary of the union.

Demands upon employers, under the terms of the agreement with the local union, were not exacting. The wage scale was not above what oil men ordinarily pay their station attendants. The hours were not shorter than station attendants usually work. The wages asked were $100 to $120 a month where commissions are paid and $110 to $130 without any commission arrangement. This local did not include tank truck drivers who were organized some time ago and still are organized under the Brotherhood of Teamsters, Stablemen and Helpers of America.

The Teamsters union is large enough that it has what is called an "International Union," which means that the teamsters, truck drivers, etc., have enough money and influence to maintain their own organization and handle their own affiairs. They have their headquarters in Indianapolis, at 22 East Michigan st. But the little union for station attendants was not so large. It was not a so-called "International Union" affiliated with the A. F. of L. like the truck drivers.

Small new labor organizations of this character which hold charter with the A. F. of L., do not have separate headquarters but have their affiliation directly into the national headquarters in Washington. The assumption is that the Gas and Oil Fillers' Union which began at West Frankfort did not meet the requirements of enough men to warrant its continuation there, or further organization elsewhere.

Employees of filling stations that are required to drive are correctly organized with the Teamsters union, Mr. Morrison says. And as far as Chicago, and most of the rest of Illinois, is concerned this situation obtains.

ON THE LAZY BENCH

The Cross-Word Puzzler's Dictionary

WE PRINT below a few words which may be of help to some of our puzzling readers.

A person who gambles in stocks. Percolator.

A boat run by sails. Yak.

Something commonly used in soups. Yodels.

A certain type of motor car. Zodiac.

A cold affecting the mucous membranes. Guitar.

An article of decorative attire usually worn with a collar. Nectar.

Small salt water fish of the perch family. Orgies.

The act of looking through a keyhole. Pecan.

An animal belonging to the ox family. Onyx.

—Atlantic Seal

◆ ◆ ◆

Only Be Careful

"Where were you employed last?" asked the boss of the fair applicant.

"In a doll factory, sir."

"And what were your duties there?"

"Making eyes."

"Very well. You are engaged; but don't demonstrate your capabilities when my wife is around."

—Marland Service Man

◆ ◆ ◆

The Trade Mark

He: "I have ordered the ring, dear. What would you like to have engraved on it?"

She (a publisher's daughter):, "Well, 'All rights reserved,' I think would be rather nice."

—Marland Service Man

◆ ◆ ◆

The Track Supervisor received the following note from one of his track foremen:

"I'm sending in the accident report on Casey's foot when he struck it with the spike maul. Now under 'Remarks,' do you want mine or do you want Casey's?

—Atlantic Seal

◆ ◆ ◆

Women are beginning to assert themselves in China."

"How's that?"

"Well you never hear of Pah Jongg, do you?"

—Penn Oil News

A Little Color

Sambo: "Rastus, if you all don't watch your step, I'll just naturally sew up your eye."

Rastus: "Yes, boy, and as ye sow so shall ye reap."

Sambo: "Go on there nigger, I'll smash your nose. I'll knock your teeth down your throat, et cetera, et cetera, et cetera."

Rastus: "Boy, you don't mean et cetera. You mean vice versa!"

—Marland Service Man

◆ ◆ ◆

Ole was traveling in Nebraska. His wife suddenly became ill and he asked the conductor to hold the train while he got off and found an undertaker.

"An undertaker!" exclaimed the conductor. "What you want first is a doctor."

"Aye guess Aye know vat Aye want," said O'e. "Aye ban a Non-Part'san Leaguer from North Dakota an' up dare we bane cutting out da middleman."

—The Record

◆ ◆ ◆

Assistant: "Lady out there with a flashy paste necklace wants to know whether it's pure diamond or not."

Jeweler: "Look like a married woman?"

"Yes."

"Tell her it is. No use making trouble for poor husbands."

—Union Oil Bulletin

◆ ◆ ◆

It's Happened Before

"And you say you lost control of your car?"

"Yes. I couldn't keep up the installments."

—The Booster

◆ ◆ ◆

Little Boy: "Pa, it's raining."

Father: "Well, let it rain."

Little Boy: "I was goin' to, Pa."

—Atlantic Seal

◆ ◆ ◆

Sweet Young Thing to Edgan: "How long did it take you to learn to skate?"

Edgar: "Oh, about a dozen sittings."

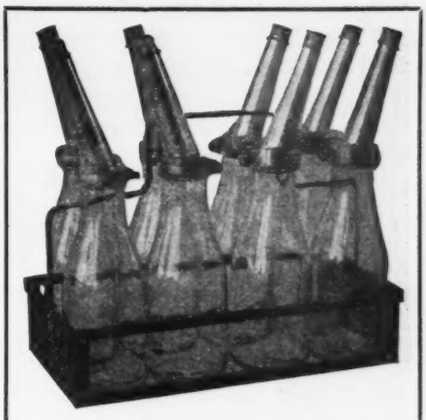
—The Booster

◆ ◆ ◆

"Do you use India ink?"

"No, I patronize the home industries."

—Atlantic Seal



Quick Service

Gets each car out of the way in double-quick time and the place open for more—and the quicker the service the bigger the profits.

No waiting at the pump when Quick Service Oil Bottles are at hand—no fidgeting by the driver while an old style measure is being filled and emptied—just what the name implies, quick service cleanly given.

And a couple of trays at the pump not only mean quick service but suggest fresh oil to the customer as his gas tank is being filled.

Try a few!

You furnish the bottles—Milk Bottles—they fit the hand.

Spouts		Trays	
Six	$2.00	For 6 Bottles	$1.00
Eight	2.65	For 8 Bottles	1.35
Twelve	3.60	Not including spouts	

C. C. Van Tine

Bartlesville Oklahoma

42 years Scientific Refining

H. B. S. MOTOR OILS

A high grade product

WRITE OR WIRE
- FOR SAMPLES -
AND QUOTATIONS

The National Refining Co.

National Headquarters: National Bldg.

Cleveland, Ohio

SINCLAIR OILS

THE convenient location of Sinclair refineries and warehouses—the ready reserve stock of Sinclair Oils—Sinclair's tank trucks and tank cars—tankers of our affiliated companies—these facilities for prompt deliveries give our customers a feeling of satisfaction and security in placing their orders for Sinclair Oils.

"From a Can to a Cargo"

SINCLAIR REFINING COMPANY

New York: Sinclair Oil Building, 45 Nassau Street
Chicago: 111 West Washington Street
Cable Adress "Lucent"

REFINERY-TANK WAGON MARKETS

Mid-Continent Gasoline Markets Softer; Movement Sluggish

Staff Special

TULSA, March 14

WITH the failure of the generally expected Mid-Continent crude price advance to materialize and the continued absence of any considerable new buying by jobbers, Mid-Continent refinery markets have closed another quiet and uneventful week. A gradual weakening of prices of most products was evident at the week-end, with larger refiners who had been most instrumental in holding a steady market, reducing their prices more closely to meet competition of those plants for whom quick movement was the prime consideration.

New gasoline business has disappointed many refiners. The oft referred to seasonal demand for kerosene is not making itself felt to any great extent. While some refiners have reported kerosene sales in fair volume, the present lower price trend indicates that either more business or less production must be had. Fuel oil movement from several plants has been stimulated by lower prices, although buying is largely reported to be for prompt shipment.

Following the advances for Mid-Continent crude last week by Marland Refining Co. and Waite Phillips Co., the resistance to lower prices for refined products was stiffened by the general belief that major purchasers would also advance their crude oil prices. It was not apparent, however, that jobbers took seriously the talk of impending higher crude prices if one can judge by the number of inquiries and orders received for either prompt or future delivery. Refiners are not agreed on the question of whether jobbers' stocks of gasoline are of such size as to cause him to buy in the open market upon the return of good weather.

Refiners here said they believe the market is much more dependent upon the weather during the next few weeks than upon the outcome of the artificial stimulation an advance in crude price would cause. For several weeks the thought that higher raw material prices were almost certain to come had much to do with the maintenance of high quotations for gasoline in particular, but the operation of the old law of supply and demand has pinched down prices of all grades.

Production and Shipments

However, the picture is not altogether without its brighter colors. During the week ended March 6, 118 refiners reporting to National Petroleum News, increased their stocks of gasoline only 870,041 gallons and had on March 6, 72,517,369 gallons in their tanks, which at the rate of shipment during that week was equal to but 20 days' supply. Forty-five Oklahoma refineries included in the report produced 10,080,568 gallons and shipped 12,043,460 gallons, or almost 20 per cent more than they manufactured. During the four weeks from February 6 to March 6, these 118 refiners shipped 95 per cent of their production of gasoline, and increased stocks only 5,622,081 gallons.

Export business during last week was quiet, and with the exception of an inquiry or two for high gravity material in north Texas, little interest was shown. On March 10, Standard Oil Co. of Louisiana reduced 64-66, 375 end point gasoline 1 cent at the Gulf, which, of course, was reflected in a correspondingly lower price to the dozen or more Mid-Continent refiners that have contracts over the year with the Louisiana company. One purchase of 50 cars of 64-66, 375 end point gasoline for export was made on Wednesday at 14½ cents for shipment over March.

As was the case last week several refiners continued to offer U. S. Motor at 11½ cents in order to keep their output moving, but sales were reported from some plants at from 12 to 12¼ cents. Notwithstanding the gradual softening of prices at the end of the week, when more material was on the market at from 11¼ to 11½ cents, several refiners quoted motor to the trade at 12 cents, and reported sales at this price. Several jobbers tried to find U. S. Motor today for shipment over March at 11 cents, but no deals at this figure were disclosed.

Brokers Out of Market

Due to the uncertainty of the markets over the next few weeks, buying by carload marketers was negligible. Refiners generally were not willing to offer material for future shipment at a price which the marketer felt he could pay, and still make a profit should the market slump further. The marketer feels that a turn in the market must come before he can obligate himself to any considerable extent because he knows that to continue to be classed as a legitimate dealer he must have a place to dispose of the goods he buys.

With the approach of warmer weather, high gravity gasolines have become less active. Several refiners who were holding 60-62, 400 end point material at 14 cents early in the week, were quoting 13½ cents at its close, and goods were offered at 13¼ cents at some sources, with a few offerings for resale at 13 cents. With exporters out of the market 64-66, 375 end point gasoline has found few takers, although a few refiners continued to ask 15 cents. Domestic offerings were being made at 14¼ to 14¾ cents.

Natural gasoline was inactive. Grade C was held by most manufacturers at 9¾ to 10 cents, early in the week, but later was more freely available at 9¼ to 9½ cents. Grade B was largely held at from 10 to 10¼ cents, and most manufacturers asked 11 cents or more for Grade A. However, concessions were obtainable in some spots on all grades. Inquiries were slow for both prompt and future shipments.

Heavier Oils Softer

Weakening of kerosene prices has disappointed refiners because it has come at the time when increased buying was expected. Jobbers have not been in the market for material outside of their regular needs, and have even

(Continued on page 125)

All prices and market information printed herein have been gathered by the staff of National Petroleum News from reliable sources and so far as can be ascertained thoroughly represent the going market as defined for each product on the date given for those particular prices. Both buyers and sellers have been checked in the gathering of this information and actual sales studied.

These prices and this information are subject at all times to correction for errors. Anyone having knowledge of any facts which would indicate anything different from the information which is given, is especially urged to send in those facts to the head office of National Petroleum News at once, or take them up with the nearest representative. All such facts will be promptly and thoroughly investigated.

The staff of National Petroleum News is cognizant of the fact that this market information has come to have a high standing in the industry. It wants to not only maintain that standing, but to improve it and to that end, invites the co-operation of the entire oil industry.

New Plan Cashes In

By F. L. Miller, Vice-President

New to many, yet old and tried and proven is this simple plan which we have worked out. It might well be called, "An Effective, Legitimate Way to Take Business Away from Your Competitor."

You can't expect to create new business. To do that, you would need to go into the motor car business. In reality, you are now engaged in a battle, never-ending, to keep what business you have and to gain some new business. How? By taking it away from your competitor.

We have developed a plan which does just that—takes business away from your competitor. Not by price-cutting or by saying mean things about him. Of course not. But by offering something for sale that he does not, and by giving you sales weapons which he doesn't have.

And we have all the details worked out so that all you need do is to follow out the experience of our other jobbers, and you will gain new business—new profits—just as they have.

Isn't it worth a wire, or a telephone call, or a letter—to find out how to take business away from your competitor? Get into touch today with Miller Petroleum Co., Kansas City, Mo. District Sales Office: Dallas, Texas. Refineries: Humboldt, Kansas and Wichita Falls, Texas.

Miller's Peerless

64 GASOLINE

Refinery Markets on Light Oils and Lubricants

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

GASOLINE AND NAPHTHA

PENNSYLVANIA	Prices Mar. 16	Prices Mar. 9	Prices Mar. 2
52-54 Naphtha	13½-13¾	13¾-14	14 -14¼
54-56 Naphtha	13¾-14	14¼-14⅜	-14⅜
58-60 Gasoline	14 -14⅛	14¼-15	14¾-15¼
60-62 Straight-run gasoline	15 -15⅛	15⅜-16	15⅝-16
62-64 Straight-run gasoline	15¾-16¼	16 -16⅛	16 -16⅛
64-66 Straight-run gasoline	16⅛-17	16⅜-17	16⅝-17
68-70 Straight-run gas. 350 E.P.	17 -17⅛	17 -17⅜	17⅛-18
68-70 Straight-run gas. 305-320 E.P.	18¾-19	18⅝-19	19 -20
70-72 Straight-run gas. 300-305 E.P.	-20	-20	-20
OKLAHOMA			
48-50 450 E. P. naphtha	10¾-11	11¼-11¾	11¾-12
50-52 450 E. P. naphtha	10¾-11	11¼-11¾	11¾-12
56-58 450 E. P. gasoline	11 -11¼	11⅝-11¾	11¾-12
58-60 U.S. Motor 437 E.P. 131 i.b.p.	11¼-11⅝	11¾-12⅛	12 -13
60-62 400 E. P. gasoline	13½-13⅝	13⅝-14	14 -14¼
64-66 375 E. P. gasoline	14½-14⅝	15 -15¼	15¼-15¾
68-70 350 E. P. gasoline	14¾-15	15 -15⅜	15¾-16
NORTH TEXAS			
48-52 450 E. P. naphtha	10½-10¾	11 -11⅜	11¾-12
56-58 450 E. P. gasoline	10¾-11	11¾-11⅝	11¾-12
58-60 450 E. P. gasoline	11 -11¼	11¾-11¾	11¾-12
58-60 U. S. Motor gasoline	11¼-11⅝	11¾-12¾	12 -12¾
60-62 400 E. P. gasoline	13½-13⅝	13¾-14	14¼-14⅜
64-66 390 E. P. gasoline	14 -14¼	14¾-15	15 -15¼
64-66 375 E. P. gasoline	14¼-14⅝	15 -15⅜	15¼-15¾
68-70 350 E. P. gasoline	14¾-15	15¾-15⅜	15¾-16
NORTH LOUISIANA			
58-60 450 E. P. gasoline	11¾-12	12¼-12½	12½-13
58-60 437 U. S. Motor gasoline	12 -12¼	12½-12¾	12¾-13¼
64-66 375 E. P. gasoline	16 -16¼	16 -16¼	16 -16½
ARKANSAS			
58-60 450 E. P. gasoline	11½-12	12¼-12¾	13 -13¼
58-60 U. S. Motor gasoline	11¾-12¼	12½-13	13¼-13½
64-66 375 E. P. gasoline	14½-15	15¾-16	16 -16½
CALIFORNIA			
54-56 U. S. Motor gasoline	-11	-11	-11
42-45 Engine distillate, 445-480 E.P.	7½- 9½	7½- 9½	

Note: This is without the 2-cent state tax included in the price by California refiners for shipments within the state.

NATURAL GASOLINE

OKLAHOMA

Grade Double A	-11	-11½	12 -12¼
Grade A	-11	-11½	12 -12¼
Grade Double B	-10	-10½	-11
Grade B	-10	-10½	-11
Grade C	9 - 9¼	9¾-10	-10¼

NOTE—Specifications adopted by Ass'n of Nat. Gaso. Manufacturers:
Grade Double A—80-87.9 gravity, 90% recovery, not over 375 E. P.
Grade A—72-79.9 gravity, 90% recovery, not over 375 E. P.
Grade Double B—84-92 gravity, 85% recovery, not over 375 E P.
Grade B—76-83.9 gravity, 85% recovery, not over 375 E. P.
Grade C—80-90 gravity, 78% recovery, not over 375 E. P.

NORTH TEXAS

*Grade Double A	-11	-11½	12 -12¼
*Grade A	-11	-11½	12 -12¼
*Grade Double B	-10	-10½	-11
*Grade B	-10	-10½	-11
Grade C	9 - 9¼	9¾-10	-10¼

*F. O. B. Breckenridge.

CALIFORNIA

73-78 375 E. P.	13 -13¼	13 -13⅛	-13⅛

OKLAHOMA NATURAL GASOLINE—BLENDS

64-66 435-440 E. P.	10¾-11	11⅛-11¾	-12¼

NORTH TEXAS

64-66 435-440 E. P.	10¾-11	11⅛-11¾	11¾-12

PENNSYLVANIA

68-70 Grav. 437 E. P.	14½-15	14⅛-15	14⅜-15
64-66 Grav. 437 E. P.	14½-15	14⅛-15	14⅜-15
60-62 Grav. 437 E. P.	14½-15	14⅛-15	14⅜-15
68-70 Grav. 420 E. P.	15½-16	15⅜-16	15⅜-16
68-70 Grav. 400 E. P.	16½-17	16⅛-17	16⅜-17

BURNING OILS

PENNSYLVANIA

45 Water White Kerosene	- 7¾	7⅜- 7¼	7¼- 7⅜
46 Water White Kerosene	7⅜- 7¾	7⅜- 7¾	7¾- 8
47 Water White Kerosene	8¼- 8⅜	8¼- 8⅜	8¼- 8⅜
300 Burning Oil	8 - 8¼	8 - 8¼	8 - 8¼

OKLAHOMA

40-42 Prime White Distillate	4 - 4¼	4⅛- 4¾	4⅛- 4¾
41-43 Water White Kerosene	4⅛- 4¾	4⅛- 4⅞	4¾- 5
42-44 Water White Kerosene	4¾- 5	4⅞- 5⅛	5 - 5¼

NORTH TEXAS

41-43 Water White Kerosene	4⅛- 4¾	4⅝- 4⅞	4¾- 5
42-44 Water White Kerosene	4¾- 5	4⅞- 5	4⅞- 5⅛

NORTH LOUISIANA

41-43 Water White Kerosene	5 - 5¼	5⅛- 5¾	5⅜- 6

ARKANSAS

41-43 Water White Kerosene	5 - 5¼	5¼- 5⅜	5¼- 5⅜
42-44 Water White Kerosene	5¼- 5⅜	5⅜- 5¾	5⅜- 5¾

CALIFORNIA

40-42 Water White Kerosene	7½- 8	7½- 8	7⅝ - 8

NEUTRAL OILS

PENNSYLVANIA	Prices Mar. 16	Prices Mar. 9	Prices Mar. 2
(Viscosity at 70°F.)			
220 Vis. No. 3 Assoc. Filt	-28	28½-29	-28½
200 Vis. No. 3 Assoc. Filt	-25½	-26	-26
180 Vis. No. 3 Assoc. Filt	23 -23½	-24	-24
150 Vis. No. 3 Assoc. Filt	21 -21½	-22	-22
(Non-Viscous)			
34 Grav. 350-360 Flash	8½- 8¾	8½- 8¾	8½- 8¾
36 Miners Neutrals 300-305 Flash	7½- 7¾	7¾- 8	7¾- 8
OKLAHOMA			
(Viscosity at 100°F.)			
70 Vis. No. 2½-3 color	8 - 8¼	8 - 8¼	8 - 8¼
100 Vis. No. 2 color	8¾- 9	8¾- 9	8¾- 9
100 Vis. No. 2½-3 color	8 - 8⅛	8 - 8⅛	8 - 8⅛
150 Vis. No. 3 color	10¾-11	10¾-11	10¾-11
150 Vis. No. 4 color	10½-10¾	10½-10¾	10½-10¾
180 Vis. No. 3 color	11¼-11⅛	11¼-11⅛	11¼-11⅛
180 Vis. No. 4 color	11 -11¼	11 -11⅛	11 -11¼
180 Vis. No. 5 color	10 -11	10 -11	10 -11
200 Vis. No. 3 color	12¼-12½	12¼-12⅝	12¼-12⅝
200 Vis. No. 4 color	12 -12¼	12 -12¼	12 -12¼
200 Vis. No. 5 color	11 -12	11 -12	11 -12
220 Vis. No. 3 color	14¾-15	14¾-15	14¾-15
220 Vis. No. 4 color	14¼-14½	14¼-14⅝	14⅜-14⅝
220 Vis. No. 5 color	13 -14	13 -14	13 -14
240 Vis. No. 3 color	16½-16¾	16¼-16⅜	16½-16⅝
240 Vis. No. 4 color	15¾-16	15¾-16	15¾-16
240 Vis. No. 5 color	15 -15½	15 -15⅜	15 -15⅝
280 Vis. No. 3 color	17¾-18	17¾-18	17¾-18
280 Vis. No. 4 color	16¾-17	16¾-17	16¾-17
280 Vis. No. 5 color	15¾-16	15¾-16	15¾-16
300 Vis. No. 5-6 color	19¼-19½	19¼-19⅜	19¼-19⅜
GULF COASTAL			
(Viscosity at 100°F; cold test 0)			
100 Vis. No. 2 Color Unfilt. Pale	10 -10¼	10 -10¼	10 -10¼
200 Vis. No. 3 Color Unfilt. Pale	15 -15½	15 -15½	15 -15½
300 Vis. No. 3 Color Unfilt. Pale	17 -18	17 -18	17 -18
500 Vis. No. 3½ Color Unfilt. Pale	19 -20	19 -20	19 -20
750 Vis. No. 4 Color Unfilt. Pale	24 -24½	24 -24½	24 -24½
200 Vis. No. 5½ Color Red Oil	13 -13½	13 -13½	13 -13½
300 Vis. No. 5½ Color Red Oil	15 -15½	15 -15½	15 -15¾
500 Vis. No. 6 Color Red Oil	16½-17	16¾-17	16¾-17
750 Vis. No. 6 Color Red Oil	22 -22½	22 -22½	22 -22¾
CALIFORNIA			
(Viscosity at 100°F.)			
100 Vis. No. 2 color	13½-14⅛	13½-14⅜	13½-14⅜
100 Vis. No. 3 color	9 -10	9 -10	9 -10
200 Vis. No. 3 color	14½-15⅜	14½-15⅜	14½-15⅜
300 Vis. No. 3 color	14 -16	14 -16	14 -16
450 Vis. No. 3½ color	19½-20⅜	19½-20⅜	19½-20⅜
550 Vis. No. 3 color	21½-22⅜	21½-22⅜	21½-22⅜
600 Vis. No. 3½ color	23½-24⅜	23½-24⅜	23½-24⅜
100 Vis. No. 5 color	8 - 9	8 - 9	8 - 9
200 Vis. No. 5 color	13½-14⅜	13½-14⅜	13½-14⅜
300 Vis. No. 5 color	14 -15	14 -15	14 -15
400 Vis. No. 5 color	16 -17	16 -17	16 -17
500 Vis. No. 5 color	17 -18	17 -18	17 -18
600 Vis. No. 6 color	18 -19	18 -19	18 -19
700 Vis. No. 7 color	19½-20⅜	19½-20⅜	19½-20⅜

CYLINDER STOCKS

OKLAHOMA

190-200 Vis. at 210° Bright Stock	31 -36	31 -36	31 -36
150-160 Vis. at 210° Bright Stock	28 -32	28 -32	28 -32
Medium Filtered Stock	18½-24	18½-24	18½-24
600 Steam Refined Olive Green	11 -12½	11 -12½	11 -12½
600 Steam Refined Dark Green	9½-10	9½-10	9½-10
Black Oil	5¼- 5¾	5¼- 5½	5¼- 5¾

PENNSYLVANIA

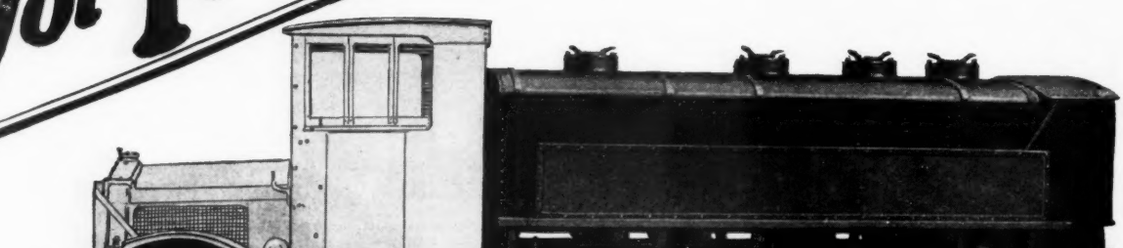
(1-inch Immersion Test)

600 Steam Refined	21½-22	22½-23	23 -23½
635 Steam Refined	27 -28	27½-28½	28½-29½
650 Steam Refined	29 -30	29½-30½	30 -30⅝
600 Flash	32 -33	32½-33⅝	33 -34
600 Warren E	-26½	-26	26 -26¼
600 Oil City E	-25½	-25	24 -25
600 Filtered D	-30	30 -30½	30½-31
Cold Test Stocks (bright filtered)	39 -40	39 -40	40 -40½
Cold Test Stock (dark filtered)	37 -38	37 -38	37 -38
Black Oil	- 8	- 8	- 8

(Note—Prices of total immersion test goods average 1 to 2 cents per gallon higher.)

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

Farrell for Truck Tanks



What is Your Cost for Repairs?

All expense for repairs to truck tanks during the first two years of their operation should be added to the original cost of the tank.

To this should be added the value of gas and oil lost through leakage due to the failure of tank seams, crystallization of compartment metal and poor construction.

First cost alone doesn't determine price. To that should be added the first two years service cost.

It is on the basis of such comparisons as these that tank operators are buying "Truck Tanks that Outlast the Chassis"—built by Farrell.

Your inquiries will be given prompt attention and shipments will be made when promised.

FARRELL MANUFACTURING CO.

JOLIET, ILLINOIS

SALES OFFICE — 644 WASHINGTON BLVD. — CHICAGO, ILLINOIS

Refinery Markets on Wax and Heavy Oil Products

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

WAX

PENNSYLVANIA	Prices Mar. 16	Prices Mar. 9	Prices Mar. 2
	(Per Pound New York)		
122-124 White Crude Scale	5¼- 5¾	5¼- 5¾	5¼- 5¾
124-126 White Crude Scale	5¼- 5¾	5¼- 5¾	5¼- 5¾
OKLAHOMA	(Per Pound Group 3)		
124-126 White Crude Scale	5 - 5¼	5 - 5¼	5 - 5¼
CALIFORNIA			
White Crude Scale	7½- 8	7½- 8	7½- 8

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil	6½- 6¾	6½- 7	6¾- 7
30-34 Fuel Oil	5¾- 6	6 - 6¼	6¼- 6¾
OKLAHOMA			
38-40 Straw distillate	3¾- 3¾	3¾- 3¾	3¾- 4
36-38 Straw distillate	3½- 3¾	- 3¾	- 3¾
32-36 Gas oil	3¼- 3½	- 3¼	- 3¼
26-30 Fuel oil (Bbl.)	1.17½-1.22½	1.22½-1.25	1.27½-1.30
24-26 Fuel oil (Bbl.)	1.12½-1.17½	1.17½-1.22½	1.22½-1.25
24-26 Fuel oil (Buyers' cars)	1.12½-1.17½	1.17½-1.22½	1.22½-1.25
20-22 Fuel oil (Bbl.)	1.10 -1.15	1.15½-1.17½	1.20 -1.22½

NORTH TEXAS	Prices Mar. 16	Prices Mar. 9	Prices Mar. 2
36-40 Straw Distillate	3½- 3¾	3¾- 3¾	3¾- 4
32-36 Gas Oil (Gal.)	- 3½	3½- 3¾	3¾- 3¾
24-26 Fuel, per bbl	1.30-1.35	1.30-1.40	1.35-1.40
GULF COASTAL			
Fuel	2.10-2.15	2.10-2.15	2.10-2.15
Gas Oil	5½- 5¾	5½- 5¾	5¾- 5¾
NORTH LOUISIANA			
32-36 Gas Oil (Gal.)	3½- 3¾	3¾- 4	- 4
20-24 Fuel Oil (Bbl.)	1.20-1.25	1.20-1.30	1.25-1.30
ARKANSAS			
38-40 Distillate	4 - 4¼	4¾- 4¾	4¾- 4½
32-36 Gas Oil	- 4	4 - 4¼	4 - 4¼
20-24 Refinery Fuel Oil (Bbl.)	-1.25	1.30-1.35	1.30-1.35
Smackover Crude Fuel (Bbl.)	-1.20	-1.20	-1.25
East Field Crude Fuel (Bbl.)	-1.20	-1.20	-1.25
CALIFORNIA*			
14-18 Fuel Oil (Bbl.)	1.60	1.60	1.60
14-18 Bunker Oil (Bbl.)	1.60	1.60	1.60
24-30 Gas Oil (Bbl.)	1.85	1.85	1.85
27 + Diesel Oil (Bbl.)	1.85	1.85	1.85

*Prices at southern California points. Prices at San Francisco 5c per bbl higher.

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

(Continued from Page 121)

cancelled orders placed several weeks ago for future delivery.

The 41-43 water white was freely available at 4½ to 4¾ cents for prompt shipment during the latter half of the week, with some refiners willing to take orders at these prices over the remainder of March. The asking price for 42-44 water white kerosene was mostly around 5 cents, but this price could have been shaded.

Lower fuel and gas oil prices were given as the reason by some refiners for increased orders and inquiries for these oils. One refiner sold 100 cars of 18-22 fuel at $1.10 in buyer's cars, and reported an offer to him of $1.05 for 150 cars per month for March, April and May delivery, which he refused. This same grade was also offered for delivery up to October at the rate of 25,000 barrels per month, at $1.15 per barrel but the deal was still pending at the end of the week.

Over a great portion of the week 20-22 gravity fuel was on the market at around $1.15, and prices on 24-26 gravity ranged from $1.15 to $1.20, although some sales were made at slightly higher prices. The 26-30 gravity was offered at $1.20 to $1.25, with some concessions below these prices. Gas oil ranged from 3⅜ to 3½ cents, and some offerings for resale were made at 3¼ cents at the end of the week.

Lubricating oils continued active and refiners indicated that buying was satisfactory. Jobbers are filling their spring requirements. Wax was rather quiet, with buyers' ideas in some cases as low as 4¾ cents for 124-126 A.m.p. grade. The market ranged from 5 to 5¼ cents. One refiner reported an offer of 5¼ cents for shipment over March, which he was compelled to refuse as his stock was sold up over the month.

Interest in road oil business among Mid-Continent refiners appears to be less this spring than at any time in recent years. Some of the largest manufacturers of road oils in past years will have none to offer during the coming season. In nearly every case refiners have announced they did not care to make any contracts this year for delivery over the season.

Cosden & Co. which has made large quantities of road oil in the past, will make no contracts this year and will offer very little spot road oil. The Imperial Refining Co. at Ardmore is another important refiner which will not make road oil this year.

Road oils which have been sold on competitive bids in Illinois at several points have brought only $1.25 to $1.30 per barrel on a Group 3 basis and refiners with short freight hauls have been more or less uniformly successful in getting the business. Delivered prices on road oils in three counties have ranged from 5.24 to 5.29 cents per gallon.

Undoubtedly one reason for the lack of interest in road oils in Oklahoma has been the fact that fuel oil contracts for the railroads have been satisfactory and refiners have preferred to sell the fuel oil rather than reduce it further. Another reason is that competition from the Arkansas group of plants operating on heavy crudes such as Smackover was keen last year and drove prices too low. Prospects are there will be plenty of road oil offered in Arkansas this year.

On the small amount of spot business which has been written so far this year prices have ranged from $1.35 per barrel on 40-50 per cent asphalt content to $1.42½ cents per barrel on 60-70 per cent goods.

Benzol Demand is Heavy

NEW YORK, March 16.—Trading in benzol was more spirited. Leading factors are pressed to meet the demand with interest equally divided between pure and 90 per cent. Stocks are fairly large but consumption is steadily soaring and some of the local observers anticipate a further advance shortly.

Export demand has been spasmodic and light, but manufacturers of motor fuels are buying more heavily. Steel operations are still along extensive lines, but production is expected to fall off toward the end of this month and production of benzol is also believed to be due for a drop. There is an active inquiry for late spring delivery but offerings for future delivery are smaller.

	Mar. 23	Mar. 16
Pure, tank cars, works	23-24	23-24
90%, tank cars, works	22	22

Above are industrial grades of benzol; motor grades run 2 cents under to 2 cents over gasoline tank wagon prices at point of delivery.

A Week of Bad Weather in the Offing

Staff Special

CHICAGO, March 16.—Temperatures will be below normal this week and rains and snow will occur at intervals until March 22, according to the official outlook issued by the weather office here Saturday. The prediction covers the whole of the Chicago forecast district which embraces all of the Standard Oil Co. of Indiana territory.

Last week was a comparatively good one for gasoline consumption in some sections of the United States but the weather in the Great Lakes region was unfavorable for motoring. The whole section had precipitation at some time during the week, and the states of "Indiana Territory" west of Chicago had a general rain late in the week.

Gasoline Prices Sag in Chicago On Unusually Weak Demand

Staff Special

CHICAGO, March 14

THE Chicago oil market continued dull over this week. Buying was light and gasoline prices as quoted by resale agents, continued to slip down the scale until on Friday and Saturday it was possible to procure some U. S. Motor material in a range of 11 to 11½ cents a gallon.

In spite of this weakness in the current market, major refiners continued to hold up their prices, most of them quoting U. S. Motor at 12 cents flat and all of them professed to be doing a fair amount of business. Two or three of these refiners declare that their storage is abundantly open for the time of year and their stocks as low as they dare to have them with the spring season approaching. Furthermore they express themselves hopefully for the season.

The predicted shortage of crude oil and the persistent bids of premium-paying skimmers for high-gravity crude recently has driven the Marland company to a higher posting and undoubtedly has brought pressure to bear on larger southwestern purchasing agencies. Refiners point out that small skimmers soon will be at their rope's end, paying premiums for crude oil and cutting prices to dispose of their gasoline on the open market. If this is true, some of the major operators will be in a position in the early spring with some empty tanks, themselves to buy some of the distress gasoline the skimmers may have to offer at sacrifice prices.

These ideas reflect the more hopeful light on the 1925 situation. Some well-posted individuals are especially bearish in their attitude. A few marketers express the belief that the general prospect is no better than it was at this time last year. One statistician points out that gasoline in storage increased 100 million gallons in the first two months after stocks reached their low point in 1923, while they increased 150 million gallons in the first two months after the low point of 1924. It happens that stocks were at their lowest in October, 1923 but did not hit bottom until November, 1924.

The statistician further shows that the oil industry carried over 200 million gallons more last winter than it did the winter before; and yet there were only 150 million gallons more in storage last Feb. 1, than on Feb. 1, 1924. In other words the motorists of the country burned up 50 million gallons of gasoline this last winter which was a "hang over" from the year before. Viewing the figures from that slant, it does not sound so sad to hear that stocks in storage now are probably about what they were last year at this time. (However the official figures are not out.)

Everybody admits that much depends on the weather that is to come, even though last winter was comparatively mild and quite dry. The weather man probably holds the balance of power. With a dry early spring the material will move, and with a late wet spring it will have to stack up; for there is no denying that so-called distress material is monopolizing the market at the present time.

The kerosene price slipped during the current week, but not to a dangerous extent. Several of the major refiners who make a premium product are moving their output at 4¾ to 5 cents and are possibly getting most of the business. In the meantime, goods less advertised and less highly recommended for early spring uses are being thrust upon the market at 4½ cents.

Domestic distillate is still enjoying a fairly consistent demand at 3¾ cents a gallon. In theory the season is drawing to a close but the fact remains that home fires have to be kept burning at this season, even in the mildest weather, and it snowed in Chicago and neighboring localities no longer ago than Friday the 13th. Gas oil is moving to the heating trade also at 3¼ to 3½ cents.

Fuel oil is not active, and like gasoline the price has had a tendency to sag over the week. The prevailing quotation is $1.15 to $1.20 but on large orders the lower figures might be shaded somewhat. Although the market has not been active the movement was said to be considerable, several large buyers having come quietly into the market and given relief to refiners' storage.

Smackover crude fuels did not change their quotations locally with the downward revision of postings of Smackover crude at the well. Extensive Smackover dealers here say that the crude price now is about what it should have been for some time and with the consistent demand in industrial centers the dealers will be able to collect the same prices they were getting before.

Pennsylvania Markets Still Quiet; Goods Not Being Sacrificed

CLEVELAND, March 16.—Volume of new business coming into northwestern Pennsylvania is comparatively small. Gasoline demand fluctuates with the weather and storage tanks of jobbers in New York state are reported to be well filled. Lowering of gasoline prices in the Mid-Continent have forced down prices in Pennsylvania but there has been no forced movement so far from refineries at sacrifice prices.

Kerosene demand is disappointing. While refiners are demanding 7¼ cents for 45 water white some has been moved as low as 7 cents, but it is probable the amount has been small. The market for 47 gravity water white seemed a little stronger today but the other two common Pennsylvania grades were easy.

Neutrals also are easy because sufficient number of refiners have worked off accumulated orders and are unable to move present output. These refiners have lowered their quotations ½ to 1 cent per gallon but refiners that are still sold up, one or two into May, are still quoting 22, 24 and 26 cents for the 150, 180 and 200 viscosity at 70° F grades.

Cylinder stocks are somewhat spotty. Sales of 600 steam refined around 21 cents are being reported and one lot was moved at 20¾ cents, but this was classed as distress goods even by the purchaser. At some plants the volume of unfilled orders stacks up well.

Wax continues soft but most Pennsylvania refiners are holding for 5½ cents, New York, for 122-124 A.m.p. white crude scale.

Kentucky

Gasoline and fuel oil are cheaper in central Kentucky but kerosene and gas oils are steady. Today's prices, f.o.b. central Kentucky refiners, were: 58-60 gasoline 13½ cents; 60-62, 14½; 62-64, 15½; 64-66, 16½, and 68-70, 17. Kerosene, 42-44 w.w. 7½; 34-38 gas oil 5½ and 24-26 fuel oil 4¼.

Week's Price Changes Tank Wagon Market

Gasoline Advances

Continental Oil—T. W. and s.s. 1 cent, Helena, Mont., March 12. Butte, Mont. t.w. advanced 1 cent, s.s. reduced 1 cent, making both t.w. and s.s. 23 cents, March 12. T. w. and s.s., 1 cent, Boise, Ida., account 1 cent additional tax, bringing total tax to 3 cents, March 11.

Kerosene Advances

Standard of Kentucky—Augusta, 1½ cents, to 15 cents, March 16.

New England Refinery Prices

(F. O. B. Boston and Fall River)

	Mar. 16	Mar. 9
U.S.Motor gasoline (gal.)	15⅜	15⅝
30-32 gas oil (gal.)	6⅛	6⅜
40-43 w. w. kerosene	7⅜	7½
Fuel Oil (Bunker C) bbl	2.05	2.05

CHICAGO, March 14.—Effective March 16, J. Fred Baldwin assumes his duties as head of the lubricating oil department of Refiners Petroleum Co., here. For several years Mr. Baldwin handled lubricating oil for the firm of Anderson & Gustafson, Inc., and since that time has been identified with R. S. Jackson & Co., a firm dealing exclusively in lubricants.

Tank Wagon, Service Station Markets for Gasoline and Kerosene
in United States Territories and Canada

BELOW are given in cents a gallon, the tank wagon price of gasoline without the special taxes levied against motor fuels by many states, the amount of the state taxes, the total tank wagon price, with tax added in and the service station or retail price of gasoline as quoted by the Standard Oil Companies in their various marketing territories. The right hand column is the tank wagon price of kerosene. By tank wagon price is meant the price to resale agents or dealers. Usually this price does not apply to sales to consumers from tank wagons.

These prices in Effect March 16, 1925

S. O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Atlantic City, N. J.	19	0	19	*	13
Newark, N. J.	19	0	19	21	13
Annapolis, Md.	20	2	22	*	12
Baltimore, Md.	19	2	21	23	11
Cumberland, Md.	20	2	22	24	12.5
Washington, D. C.	19	2	21	23	12.5
Danville, Va.	20	3	23	*	13.5
Norfolk, Va.	20	3	23	25	13.5
Richmond, Va.	20	3	23	25	13.5
Roanoke, Va.	20	3	23	25	13.5
Petersburg, Va.	20	3	23	*	13.5
Charleston, W. Va.	18	2	20	22	13.5
Clarksburg, W. Va.	19	2	21	23	13.5
Keyser, W. Va.	19	2	21	*	13.5
Parkersburg, W. Va.	18	2	20	22	13.5
Wheeling, W. Va.	18	2	20	22	13.5
Williamsburg, W. Va.	19	2	21	*	13.5
Charlotte, N. C.	20	4	24	26	14.5
Hickory, N. C.	20	4	24	*	14.5
High Point, N. C.	20	4	24	*	14.5
Mt. Airy, N. C.	20	4	24	*	14.5
Salisbury, N. C.	20	4	24	*	14.5
Charleston, S. C.	20	3	23	25	15
Columbia, S. C.	20	3	23	25	15

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK TERRITORY

*New York City	21	0	21	23	13
Albany, N. Y.	21	0	21	23	13
Buffalo, N. Y.	21	0	21	24	13
Rochester, N. Y.	†21	0	†21	†25	13
Syracuse, N. Y.	21	0	21	23	12
Boston, Mass.	21	0	21	25	11
Augusta, Me.	21	1	22	25.5	13
Manchester, N. H.	21	2	23	26.5	13
Burlington, Vt.	21	2	23	26.5	13

*In steel barrels.

†At Rochester only, as far as is known, Standard sells two grades of gasoline, the above price applying to its Socony grade, and another grade being sold 2c below this price.

ATLANTIC REFINING TERRITORY

Pittsburgh, Pa.	19	0	19	*24	14
Philadelphia, Pa.	19	0	19	*24	14
Allentown, Pa.	19	0	19	*24	14
Erie, Pa.	19	0	19	*24	14
Scranton, Pa.	19	0	19	*24	14
Altoona, Pa.	19	0	19	*24	14
Dover, Del.	19	2	21	24	14
Wilmington, Del.	19	2	21	24	14
Providence, R. I.	21	0	21	25	13
Springfield, Mass.	21	0	21	25	13
Worcester, Mass.	21	0	21	25	13
Hartford, Conn.	21	1	22	26	12
New Haven, Conn.	21	1	22	26	13
Boston, Mass.	21	0	21	25	11

*Contains 2-cent tax collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY TERRITORY

Lexington, Ky.	19	3	22	25	14
Louisville, Ky.	19	3	22	24	12
Covington, Ky.	17	3	20	23	14
Clarksdale, Miss.	19	3	22	25	12
Jackson, Miss.	19	3	22	25	10
Natchez, Miss.	18.5	3	21.5	24.5	11.5
Vicksburg, Miss.	18.5	3	21.5	24.5	11.5
Birmingham, Ala.	20	2	22	25	14.5
Mobile, Ala.	19	2	21	24	12.5
Montgomery, Ala*	21	2	23	26	15.5
Atlanta, Ga.	21	3	24	27	13
Augusta, Ga.	21	3	24	27	15
Macon, Ga.	21	3	24	27	14.5
Savannah, Ga.	19	3	22	25	13
Jacksonville, Fla.	19	3	22	25	13
Miami, Fla.	21	3	24	27	14.5
Tampa, Fla.	19	3	22	25	13
Pensacola, Fla.	19	3	22	25	13.5

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

S. O. INDIANA TERRITORY

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Chicago, Ill.	†19	0	†19	21	12
Decatur, Ill.	18.2	0	18.2	20.2	12.5
E. St. Louis, Ill.	17.1	0	17.1	19.35	11.6
Joliet, Ill.	18.4	0	18.4	20.4	12.7
Peoria, Ill.	18	0	18	20	12.5
Quincy, Ill.	18.2	0	18.2	20.2	12.3
Indianapolis, Ind.	18.2	2	20.2	22.2	12.7
Evansville, Ind.	18	2	20	22	12.5
South Bend, Ind.	18.4	2	20.4	22.4	12.9
Detroit, Mich.	18.8	2	20.8	22.8	13.2
Grand Rapids, Mich.	18.7	2	20.7	22.7	13.1
Saginaw, Mich.	18.9	2	20.9	22.9	13.3
Madison, Wis.	18.3	0	18.3	20.3	12.5
Milwaukee, Wis.	18.1	0	18.1	20.1	12.3
La Crosse, Wis.	19.2	0	19.2	21.2	13.4
Minneapolis, Minn.	19.2	0	19.2	21.2	13.6
Duluth, Minn.	19.5	0	19.5	21.5	13.6
Mankato, Minn.	19.1	0	19.1	21.1	13.4
Des Moines, Iowa	18.5	0	18.5	20.5	12.9
Davenport, Iowa	18.5	0	18.5	20.5	12.9
Sioux City, Iowa	18	0	18	20	12.5
Mason City, Ia.	18.5	0	18.5	20.5	12.9
St. Louis, Mo.	**17.6	2	19.6	21.9	12
Kansas City, Mo.	††18.9	2	20.9	22.9	11.3
St. Joseph, Mo.	**18	2	20	22	11.9
Fargo, N. D.	19.9	1	20.9	22.9	15.6
Grand Forks, N. D.	20.1	1	21.1	23.1	15.9
Minot, N. D.	20.9	1	21.9	23.9	15.6
Pierre, S. D.	20	2	22	*	14.1
Huron, S. D.	20	2	22	24	14.1
Wichita, Kans.	17.8	0	17.8	19.8	10.8
Bartlesville, Okla.	16.9	2½	19.4	21.4	10.9

†Dumps of 100 or more gallons at 18c per gallon.
*S. O. Indiana does not operate station
**Includes city tax of ½c.
††Includes city tax of 1c.

S. O. NEBRASKA TERRITORY

Crawford, Neb.	19	0	19	*	13.25
Omaha, Neb.	16	0	16	18	12.5
McCook	19.75	0	19.75	21.75	14
Norfolk	18.75	0	18.75	20.75	13
North Platte	19.75	0	19.75	21.75	13.75
Scotts Bluff	19.25	0	19.25	21.25	13.25

*Standard has no service station here.

CONTINENTAL OIL TERRITORY

Denver, Colo.	19	2	21	23	14.5
Pueblo, Colo.	19	2	21	23	14.5
Casper, Wyo.	19	2½	21.5	23.5	13
Cheyenne, Wyo.	20.5	2½	23	25	14.5
Butte, Mont.	21	2	23	23	16
Helena, Mont.	23	2	25	27	17
Salt Lake City, Utah	20.5	2½	23	25	18
Boise, Ida.	21.5	3	24.5	26.5	20
Albuquerque, N. M.	23.5	1	24.5	27.5	16.5

S. O. CALIFORNIA TERRITORY

Phoenix, Ariz.	20	3	23	26	21.5
Los Angeles, Cal.	13.5	2	15.5	18.5	15.5
Fresno, Cal.	15.5	2	17.5	20.5	17.5
San Francisco, Cal.	15	2	17	20	15.5
Reno, Nev.	18.5	2	20.5	23.5	19
Portland, Ore.	15	3	18	21	16.5
Seattle, Wash.	15	2	17	20	16.5
Spokane, Wash.	19	2	21	24	20.5
Tacoma, Wash.	15	2	17	20	16.5

S. O. LOUISIANA TERRITORY

Camden, Ark.	19	4	23	25	13
Little Rock, Ark.	19	4	23	25	11
West Helena, Ark.	19	4	23	25	12
Alexandria, La.	18.5	2	20.5	22.5	13
Baton Rouge, La.	17	2	19	21	11.5
Lake Charles, La.	18.5	2	20.5	22.5	13
New Orleans, La.	18.5	2	20.5	22.5	11
Shreveport, La.	18.5	2	20.5	22.5	13
Bristol, Tenn.	21	3	24	25	13.5
Chattanooga, Tenn.	19.5	3	22.5	24.5	14.5
Knoxville, Tenn.	20.5	3	23.5	25.5	15
Nashville, Tenn.	19.5	3	22.5	24.5	13.5
Memphis, Tenn.	18	3	21	23	14

S. O. OHIO TERRITORY

	Gasoline T.W	Tax	Total	S.S.	Oil T.W.
All Ohio points	18.5	0	18.5	20.5	15

MAGNOLIA PETROLEUM TERRITORY

Muskogee, Okla.	17.5	2½	20	23	12
Oklahoma City	17.5	2½	20	23	12
Tulsa, Okla.	17.5	2½	20	23	11
Fort Smith, Ark.	17.5	4	21.5	24.5	12
Little Rock, Ark.	19	4	23	25	11
Texarkana, Ark.	18	4	22	25	12
Dallas, Tex.	16	1	17	21	12
El Paso, Tex.	18	1	19	22	13
Fort Worth, Tex.	16	1	17	21	12
Houston, Tex.	16	1	17	21	12
San Antonio, Tex.	16	1	17	20	12

*Within city of Texarkana, Ark., the state tax on gasoline is 1c per gal. conforming with the Texas state tax. In Texarkana district outside of the city, the 4c state tax applies.

V. M. and NAPTHA

(Changes ordinarily occur coincident with gasoline)

	V.M.&P. Naphtha	Oleum Spirits
Chicago	21	19
Detroit	22.7	20.2
Milwaukee	21.7	19.2
Minneapolis	23	20.5
St. Louis	20.9	18.4
New York	20½	....
Cleveland	19	....

CANADA

Posted by Imperial Oil, Ltd.
(Per Imperial Gallon, which is 1.2 American Gallons)
Prices in effect Mar. 16, 1925

ONTARIO

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Toronto	24.5	0	24.5	28	20
Ottawa	25.5	0	25.5	29	21
Cochrane	29.5	0	29.5	33	24.5
Ft. William	27.5	0	27.5	31	22.5
MANITOBA					
Winnipeg	27.5	3	30.5	34	22.5
SASKATCHEWAN					
Regina	30.5	0	30.5	34	25.5
ALBERTA					
Edmonton	32.5	2	34.5	38	27.5
Calgary	31.5	2	33.5	37	26.5
BRITISH COLUMBIA					
Vancouver	23	3	26	30	23
QUEBEC					
Montreal	24.5	2	26.5	30	20
Quebec City	26.5	2	28.5	32	22
NEW BRUNSWICK					
St. John	27.5	0	27.5	31	23
Moncton	29.5	0	29.5	33	25
NOVA SCOTIA					
Halifax	27.5	0	27.5	31	23
Sydney	29.5	0	29.5	33	25
PRINCE EDWARD ISLAND					
Charlottetown	27.5	2	29.5	31	23

Note: In districts surrounding these points 1c additional is added to city price.

Complete Export Markets

New York **Gulf Coast** **California**

Diesel Oil Cheaper at New York But Bunker is Steady

NEW YORK, March 16

DIESEL oil broke 35 cents a barrel, and on Saturday the Standard Oil Co. of New Jersey was quoting $2.35 a barrel, refinery. The Tide Water Oil Co., was out of the market. Export buying has fallen off and domestic demand is disappointing, being hand-to-mouth or against contracts. Bunker oil is steady at $1.80 a barrel, refinery, but both export and domestic demand lagged.

Major petroleum products were quiet. Most of the larger export buyers are showing a keen academic interest but are purchasing little or nothing. There was an inquiry for a cargo of 35,000 barrels of 36-40 gas oil, but this was not closed, and one refiner was still working on it at the end of the week. United Kingdom buyers have been showing little interest in this oil of late, most of the demand coming from Germany and Scandinavia. For 36-40 in bulk at the refinery 6½ to 6¾ cents was quoted while 28-34 was held at 6¼ cents a gallon, same basis.

Gasoline Stiffens

Gasoline stiffened a little under heavier domestic buying but leading factors are still quoting 15 cents a gallon, at the refinery, and 16 to 16½ cents in tank cars delivered to the trade.

A German buyer was inquiring for a cargo of 42,000 barrels for April shipment but nothing materialized. Cased gasoline is moving in a larger way. One large Independent closed a contract for 80,000 cases of gasoline and kerosene mixed for March-April shipment to Australasia. There were two inquiries from Japan, one for 25,000 cases and the other for 30,000 cases of U. S. Motor gasoline for April shipment, but these were still hanging fire as the week ended. Most cased goods moving out of this port is on consignment or against contracts.

Kerosene is a shade easier, although prices are unchanged from last week, and leading factors are quoting water white at 8½ cents a gallon, in tank cars delivered to the trade, and 7½ cents at the refinery. There was an inquiry for 25,000 barrels for March-April shipment to the Continent but buyers' ideas were about ½ cent below those entertained by refiners.

Cased kerosene is moving in a larger way, but mainly against contracts. South American buyers, are showing more interest but most of the goods moving is to the Levant, west coast of Africa and China.

The wax market is softer. Apparently the majority of large European buyers are fairly well covered for the present, having purchased heavily at the recent low levels, and have enough on hand to tide them over the present. Now that prices are rather high compared with a few weeks ago, they are showing little or no interest, but have adopted a waiting attitude. One European buyer who recently purchased a large quantity of 122-124 white crude scale at 5½ cents, was offered a moderate quantity at 5¼ cents but was uninterested. In many cases offerings sent abroad have failed even to bring replies. Some brokers reported counter bids at lower levels, but these were apparently to see just how weak the market is. Fully refined waxes were sluggish, and little fresh buying was reported.

Lubricants are marking time. Demand for cylinder stocks is more active than a week ago, but orders are confined to lots of 500 to 800 barrels for April shipment to the United Kingdom, Germany and France. The latter is purchasing sparingly. New York factors are quoting Pennsylvania 600 steam refined in barrels, New York, at 29½ to 31½ cents a gallon. Spindle oil is in small demand, while paraffin oils are unchanged.

Petroleum is a trifle more active. Snow white is quoted at 13 cents a pound, while lily white is steady at 10¾ to 11 cents. United Kingdom makers of facial creams and toilet preparations are buying a little more freely. The lower grades were steady at unchanged prices under a routine domestic demand. Medicinal oils are quiet and little fresh buying of consequence has come to light.

N. Y. Domestic Market

The following light oil, gas and fuel oil prices are F. O. B. New York refineries, being products made from Domestic (including California) and Mexican Crudes.

	Mar. 16	Mar. 9
U. S. Motor Gasoline, Tank Cars Delivered	-15¾	-15¾
U. S. Motor Gasoline, Tank Cars Bayonne	-14¾	-14½
Kerosene, 45-150 W. W. Tank, Cars Del'd	-.08½	-.08½
Grade C Bunker, f.o.b. N.Y.	1.80	1.80
Diesel Oil f.o.b. Refinery	2.35	2.70
Gas Oil, 36-40, Bulk, Refinery	.06½-.06¾	-06¾

New York Export Market

Prices below are averages of actual sales by local exporting Agencies

LUBRICATING OILS

The following prices are cooperage basis f. o. b. New York, products being manufactured by inland refineries.

CYLINDER OILS BBLS.	Mar. 16	Mar. 9
Penna. Filtered D 600	-35	-35
Penna. Filtered E 600	-33½ 34	-35
Unfiltered 600 s. r.	-29½ 30	-31
Unfiltered 650 s. r.	-36 36	-37
600 flash s. r.	-43	-43
Western 600 s. r. 15	-16 14	-15
Bloomless 30-31 grav.	-25	-25
RED PARAFFIN (bbls.)		
300 vis. at 100°F. 24-	25 24-	25
250 vis. at 100°F.	23	23
175 vis. at 100°F.	-22½	-22½
High Viscosity Paraffin	30	30
.885 s. g. pale 100 vis. at 100°F 15	-15½ 15	-15½
SPINDLE (bbls.)		
200 vis. at 100°F. Pale	23½	22½
180 Pale	20	20
150 Pale	18	18
BLACK OIL (bbls.)		
25-30 cold test 14	-15½ 14	-15½
15 cold test 15	-15½ 15	-15½

MEDICINAL OILS

(Cooperage Basis)

(Penna. Stocks)

Domestic.875-.885s.g.drums	1.00-1.08	1.00-1.08
Domestic.865-.870s.g.drums	75 -80	75- 80
Russian.885-.890s.g.325-330 vis. drums	1.25	1.25

WAXES

(Penna. Stocks)

(F. A. S. Carload Lots)

WHITE CRUDE SCALE	Mar. 16	Mar. 9
122-124 A. m. p.	-05¼	-05¼
124-126 A. m. p. 05¼	-05¾	-05¾
MATCH		
105-108 A. m. p.	05¾	05¾
111-115 A. m. p. 05¾	-06	06
FULLY REFINED		
120-122 A. m. p. 05¾	-06	06
123-125 A. m. p.	06	06
125-127 A. m. p. 06	-06¼	06¼
128-130 A. m. p. 06¼	-06¾	06¼
130-132 A. m. p.	06½	06½
133-135 A. m. p. 7¼	-07¾	07½
SEMI REFINED		
122-124 A. m. p. 05¾	-05½	05½
YELLOW CRUDE SCALE		
124-126 A. m. p. 5¼	-05¾	05¾

PETROLATUMS

(Penna. Stocks)

Snow White	13	13
Lily White	10¾	10¾
Cream Petroleum Jelly	07½	07½
Veterinary	03¾	03¾
Light Amber	04¼	04¼
Dark Amber	03¾	03¾
Dark Green	02¾	02¾

Only Lubricating Oils are Active in New Orleans Export Market

By Special Correspondent

NEW ORLEANS, March 16

A NERVOUS foreign exchange market reflecting unfavorable economic developments abroad, coupled with the declining tendency in many of the major petroleum products, resulted in a dearth of buying orders last week. No violent price changes were recorded, but the position of the market in general is easier than a week ago. The only interest of consequence was in lubricants.

One big Independent was working on a cargo of 35,000 barrels of zero cold test oils for April shipment to France, while another Independent closed a consignment of a similar quantity of assorted lubes. Prices were not made public. This oil is also going to the Continent, April shipment from the Gulf.

The only price changes in lubes, was the advance of 1 cent a gallon in 750 viscosity No. 4, unfiltered, pale oil to 25½ cents a gallon.

United kingdom buyers are inquiring for small cargoes of assorted lubes, three of these inquiries having been reported at the end of the week. Most buyers, however, are reluctant to do business at prevailing prices. German buyers showed little interest in the market.

Gasoline is Cheaper

U. S. Motor gasoline was off ¼ cent at 13¼ cents a gallon while 64-66 showed a similar decline at 17¼ cents. For 60-62, 400 end point, the price was unchanged at 15½ cents, although rumor had it 15¼ could have been done on a bid. Only one bulk inquiry was reported. This was received from a United Kingdom concern by a large Independent and called for 42,000 barrels of U. S. Motor and 64-66 gravity. Negotiations were still on Saturday.

Cased gasoline was also lower. U. S. Motor was offered at $2.60 a case while 64-66 could have been had at $2.90 against the previous price of $3.10.

One large Independent reported the sale of 30,000 cases of gasoline and kerosene mixed for March-April shipment to Australia, while another sale was reported of 50,000 cases of gasoline and kerosene for April shipment to Australasia.

Kerosene is Easier

Kerosene prices were easier at 5¾ to 6 cents for prime white in bulk and 6¾ to 7 cents for water white. Export demand is lagging and no bulk sales were reported. French buyers have been inquiring for part cargoes for early April shipment but are not interested at prevailing prices. Cased water white is steady at $1.70 and prime at $1.60. There is a good movement of cased goods against previously placed contracts. There were several good sized inquiries from the west coast of Africa but no purchases worth mentioning were recorded.

Gas oil is steady at 5¾ to 6 cents a gallon. Refiners were compelled to pay 5½ cents for both 26-28 and 32 plus, while the price to the export trade was ¼ to ½ cent above this figure. No bulk sales were reported although one of the leading Independents is working on a cargo of 35,000 barrels for April shipment to the Continent, presumably France. Offerings of gas oil were small throughout the week, as refiners are still inclined to hold their stocks for cracking during the late spring and summer months. One United Kingdom buyer was inquiring for 28,000 barrels for April shipment but his price was apparently much below refiners' ideas.

Bunker Oil is Quiet

Bunker oil was quiet and unchanged at $1.70 a barrel. Export demand large throughout the week. Stocks are moderate. At Tampico grade C oil was steady at $1.65 a barrel including taxes while heavy Panuco crude was quoted at $1.45 a barrel, taxes to be added.

Waxes were sluggish. Big British candle makers have covered their immediate future requirements, and as the bulk of the manufacturing is done during the winter and early spring months no large orders are looked for from this source for some time to come. South American buyers are showing little interest.

California Lubes Improved

LOS ANGELES, March 13.—Continued improvement in the volume of sales of lubricants is reported, but no indication of a price advance has been made. Fuel oil business continues good both in the domestic and export markets. Movement of export kerosene is unchanged.

Pacific Export Market

(Cargo lots quotations at seaboard, Los Angeles.)

	Mar. 16	Mar. 9
Gasoline, U. S. Motor—54°—56°	10½–11½	10½–11½
Gasoline—U. S. Motor blends and special cuts	11 –12½	11 –12½
Gas Oil, 24°—30°B per bbl.	$1.85	$1.85
Diesel Oil, 27°B-plus per bbl.	$1.85	$1.85
Bunker Oil, 14°—18°B per bbl.	$1.60	$1.60
Fuel Oil, 14°—18°B per bbl.	$1.60	$1.60
Kerosene, W.W. 40°—42° B per gal., 125-150 flash test	05 –06½	05 –06½
Cased Goods		
Gasoline, U. S. Motor	$2.70	$2.70
Kerosene, W.W. 40°—42° B per case, flash test 125-150	$1.55–1.65	$1.55–1.65

N. Y. Export Quotations

Furnished by big exporting oil companies. No actual sales. Record for statistical purposes only.

Illuminating Oils
Standard Oil of New Jersey

	Mar. 16	Mar. 9
Bulk, gal., Bayonne	6.50	6.50
Barrels, gal., Bayonne, cargo	13.50	13.50
Cases, gal., Bayonne	16.90	16.90

Prices for water white oil (150 test) are 1 cent higher than those for standard white.

Gasoline-Naphtha
(Cents per Gallon)

U. S. Motor, dead bulk	16.00	16.00
U. S. Motor cases	30.15	30.15
Export Naphtha bulk	18.75	18.75
*62-63 deg. bulk	20.00	20.00
66-68 deg. bulk	21.50	21.50

*Grade changed from 64-66 to 62-63 Jan. 9.

Tide Water Oil Company
(f. o. b. Bayonne)

58-59 deg. bulk	17.00	17.00
58-59 deg. cases	30.65	30.65
Export grade, U. S. Motor Specifications bulk	16.00	16.00
63-65 deg. bulk	20.00	20.00
68-72 deg. bulk	22.50	22.50

	Bulk	Barrels	Cases
Standard white 110	6.50	13.50	16.90
Water white 150	7.50	14.50	17.90

The Texas Company

Gasoline, cases			30.15
Kerosene	**Bulk**	**Barrels**	**Cases**
Standard White	6.50	13.50	16.90
Prime White	7.00	14.00	17.40
Water White	7.50	14.50	17.90

Gulf Export Market

(Actual Sales Prices)

Gasoline

	Mar. 16	Mar. 9
U. S. Motor, Bulk	–.13¼	.13¼–.13½
60–62 gr. 400 e. p.	–.15½	–.15½
64-66, Bulk	–.17¼	.17½–.17
U. S. Motor, Cases (cargo lots)	2.60	2.70
64-66, Cases (cargo lots)	2.90	3.10

KEROSENE

Water White, bulk	–.06¾	–.07
Prime White, bulk	–.05¾	–.06
Water White, cases (cargo lots)	1.70	1.70
Prime White, cases (cargo lots)	1.60	1.60

GAS AND BUNKER OIL

26-28, gravity, bulk	–05½–06	–06
32 plus, bulk, Dark	–05½–06	–05¾
Grade C, Bunker oil	1.70–1.75	1.70–1.75

MEXICAN CRUDE AND BUNKER OILS

*Heavy, f.o.b. Tampico, Taxes to be added	1.45	1.45
Mexican Grade C Bunker oil F. O. B. Tampico Taxes paid	1.65	1.65
Mexican C, Bunker oil New Orleans	1.70	1.70

Lubricating Oils

SOUTH TEXAS
(Viscosity at 100°F; cold test 0)
(Tanker, F. O. B. Houston)

	Mar. 16	Mar. 9
100 Vis. No. 2 Unfilt. Pale	11	11
150 Vis. No. 2½ Unfilt. Pale	13	13
200 Vis. No. 3 Unfilt. Pale	15½	15½
300 Vis. No. 3 Unfilt. Pale	17¾	17½
500 Vis. No. 3½ Unfilt. Pale	19¼	19¾
750 Vis. No. 4 Unfilt. Pale	23½	24½
200 Vis. No. 5½ Red Oil	14½	14½
300 Vis. No. 5½ Red Oil	16½	16½
500 Vis. No. 6 Red Oil	18½	18½
750 Vis. No. 6 Red Oil	23¼	23½

*Nominal

British Importations

During the week ended Feb. 23 importations of petroleum into the United Kingdom amounted to 25,375,270 imperial gallons. Larger receipts were:

Consignee	Imperial Gallons	Product	Port of Origin
At London—			
Blue Bird Motor Co.	449,249	Gasoline	Rouen
Midway Oil	1,313,600	Kerosene	Batoum
At Liverpool—			
Brit.-Mex.	1,888,000	Fuel Oil	Tampico
Anglo-Amer.	442,800	Lubes	New York
Vacuum Oil	907,111	Lubes	Philadelphia
At Barrow—			
Anglo-Amer.	1,123,500	Benzine	Philadelphia
Anglo Amer.	437,270	Kerosene	Philadelphia
At Bristol—			
Shell	309,279	Benzine	Rangoon
Anglo Mex.	1,958,000	Fuel Oil	Tuxpan
At Manchester—			
Shell Mex.	1,060,713	Benzine	Rangoon
Shell Mex.	797,129	Benzine	Suez
At Southampton—			
Shell	582,114	Benzine	Balik Pappan
Brit.-Mex.	2,021,275	Fuel Oil	Houston
At Swansea—			
Nat'l Ref.	2,505,575	Crude	Abadan
Nat'l Ref.	2,516,970	Crude	Abadan
Nat'l Ref.	2,450,985	Crude	Abadan
At Glasgow—			
Anglo-Mex.	1,770,000	Fuel Oil	Tampico
At Grangemouth—			
Scottish Oils	2,214,960	Crude	Abadan

During the week ended Feb. 16, there were imported 35,920,216 gallons. Larger receipts included:

Consignee	Imperial Gallons	Product	Port of Origin
At London—			
Shell	2,040,046	Crude	Curacao
Shell	1,963,220	Crude	Curacao
Shell	1,963,163	Benzine	Abadan
Shell	1,010,833	Gas Oil	Baton Rouge
Shell	156,279	Gas Oil	New York
Merchant Trading Co.	2,926,024	Gasoline	Baton Rouge
Anglo-Amer.	996,054	Lubes	New York
Anglo-Amer.	1,350,570	Gas Oil	Baytown
Lubes and Fuel Oils	1,907,940	Lubes	Philadelphia
Anglo-Mex.	2,412,628	Fuel Oil	Tampico
Nat'l Benzol	1,491,358	Gasoline	San Pedro
At Liverpool—			
Brit.-Mex.	240,025	Fuel Oil	New Orleans
Brit.-Mex.	1,888,000	Fuel Oil	Tampico
Anglo-Amer.	1,654,120	Kerosene	New York
Anglo-Mex.	1,180,000	Fuel Oil	Tampico
At Bristol—			
Shell	147,671	Benzine	Balik Pappan
At Hull—			
Shell-Mex.	254,127	Gas Oil	Rotterdam
Shell-Mex.	254,000	Gas Oil	Rotterdam
Shell	1,058,909	Gasoline	San Pedro
At Manchester—			
Shell-Mex.	1,725,492	Crude	Tampico
At Newcastle—			
Shell	1,742,160	Fuel Oil	Tampico
At Plymouth—			
Anglo-Amer.	521,620	Gas Oil	Baytown
At Southampton—			
Anglo-Mex.	1,062,000	Fuel Oil	Tuxpan
At Swansea—			
Nat'l Oil Ref.	2,773,000	Crude	Abadan
At Grangemouth—			
Scottish Oils	2,336,750	Crude	Abadan

CHICAGO.—Sheldon Clark, vice president of the Sinclair Refining Co., is out again with the aid of a cane after a lay-up of many months due to an infection in his foot which spread through his body. Mr. Clark said his first consolation from finding himself in the hospital was the discovery of the large number of friends he had who called on him. He felt very proud of his friends until it dawned on him that they only called when a particularly good looking nurse was on duty, other times they left him severely alone.

Crude Oil Prices All Fields

EASTERN FIELDS

	1925 Mar. 16	1924 High	1924 Low	1923 High	1923 Low
Bradford Allegany	$3.85	Jan.30..$4.50	Aug.21..$2.85	Feb.15..$4.25	Nov.13..$2.60
Other Pennsylvania	3.75	Jan.30.. 4.00	Aug.5... 2.75	Feb.15.. 4.00	Nov.13.. 2.35
Cabell	2.20	Mar.10.. 2.20	Jan.1and Aug.5. 1.45	Feb.15.. 2.76	Nov.13.. 1.20
Corning	2.25	Mar.10.. 2.15	Jan.1... 1.40	Feb.15.. 2.30	Nov.14.. 1.25
Somerset	2.30	Mar.10.. 2.30	Jan.1... 1.40	Feb.15.. 2.55	Nov.13.. 1.15
Somerset Light	2.45	Mar.10.. 2.50	Jan.1... 1.55	Feb.15.. 2.80	Nov.13.. 1.30
Ragland	1.30	Mar.10.. 1.10	Jan.1... .85	Feb.15.. 1.10	July 10.. .75

Somerset oil run prior to Oct. 1, 1923, takes price of 6 cents lower than above quotations.

CENTRAL STATES FIELDS

Wooster	$2.25	Mar.8...$2.15	Jan.1,and Sept.18 $1.40	Feb.19..$2.50	Nov.9...$1.25
Lima	2.33	Mar.8... 2.28	Jan.1... 1.53	Feb.19.. 2.58	Nov.9... 1.43
Indiana	2.13	Mar.8... 2.08	Jan.1... 1.33	Feb.19.. 2.38	Nov.9... 1.23
Princeton	2.12	Mar.8... 2.07	Jan.1... 1.32	Feb.19.. 2.37	Nov.8... 1.22
Illinois	2.12	Mar.8... 2.07	Jan.1... 1.32	Feb.19.. 2.37	Nov.8... 1.22
Plymouth	1.65	Mar.8... 1.45	Jan.1... .70	Feb.19.. 1.75	Nov.9... .60
Canadian Petrolia	2.73	Mar.8... 2.68	Jan.1... 1.93	Feb.19.. 2.98	Nov.9... 1.88

MID-CONTINENT AND NORTH TEXAS FIELDS

Below 30	$1.35	Currie	$2.00
30-32.9	1.55	Mexia	2.00
33-35.9	1.80	Powell	2.00
36-38.9	2.00		
39-41.9	2.25		
42 and above	2.35		

Humble's Prices
Moran Field Texas

Below 30	$1.35	36 and above	$2.00
30-32.9	1.55	Wortham	2.00
33-35.9	1.80	Richland	2.00

Magnolia's Price Schedule
North and North-Central Texas, Okla., and Kan.

Below 28	$1.00	Corsicana, light, Powell, Mexia	$2.00
28-30.9	1.35	Corsicana, heavy	1.00
31-32.9	1.55	Thrall	1.00
33-35.9	1.80	*Magnolia pays $2 and $2.25 respectively for these two grades in Okla. and Kan.	
*36-38.9	1.95		
*39-41.9	2.10		
42 and above	2.35		

NORTH LOUISIANA—ARKANSAS FIELDS

Caddo, 38 degrees and above	$2.05	De Soto	1.90
do 35 to 37.9	1.95	Crichton	1.70
do 32 to 34.9	1.85	Bellevue	2.00
do below 32	1.70	Smackover 28 and above	1.45
Homer, 35 and above	1.80	do 27-27.9	1.40
do 33 to 34.9	1.70	do 26-26.9	1.35
do 31 to 32.9	1.60	do 25-25.9	1.25
do below 31	1.45	do below 25	1.15
Haynesville, 33 and above	1.70	Stephens 26 and above	1.60
do below 33	1.60	do below 26	1.40
El Dorado 33 and above	1.70	Cotton Valley	1.25
do below 33	1.60		
Bull Bayou, 38 and above	1.85		
do 35 to 37.9	1.70		
do 32 to 34.9	1.55		

GULF COASTAL FIELDS

	1925 Mar. 16	1924 High	1924 Low	1923 High	1923 Low
Spindletop	$2.00	Apr.1...$2.00	Jan.1 and Sept.17..... $1.25	Mar.15..$1.75	Aug.18..$1.00
Goose Creek "A"	2.00	Apr.1...$2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Goose Creek "B"	1.75	Apr.1... 1.70	Sept.17..... 1.05	Mar.15.. 1.50	Aug.18.. 1.00
Sour Lake	2.00	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Humble	2.00	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Hull "A"	2.00	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Hull "B"	1.75	Apr.1... 1.70	Jan.1 and Sept.17..... 1.00	Mar.15.. 1.30	Jan.1.... .80
West Columbia	2.00	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Edgerly	2.00	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Vinton	2.00	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Jennings	2.00	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Saratoga	2.00	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Orange "A"	2.00	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25		
Orange "B"	1.75	Apr.1... 1.70	Jan.1 and Sept.17..... 1.00		
Pierce Junction "A"	2.00	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25		
Pierce Junction "B"	1.75	Apr.1... 1.70	Jan.1 and Sept.17..... 1.00		

WYOMING FIELDS

Elk Basin	$2.15	Mar.10..$1.65	Jan.1...$ .95	Feb.17..$2.10	Nov.9...$ .95
Grass Creek	2.15	Mar.10.. 1.95	Jan.1... .95	Feb.17.. 2.10	Nov.9... .95
Big Muddy	2.00	Mar.10.. 1.50	Jan. 1... .45	Feb.17.. 1.65	Nov.9... .45
Salt Creek	1.60	Mar.10.. 1.60	Jan.1... .60	Feb.17.. 1.65	Nov.9... .60
Lance Creek	2.15	Mar.10.. 1.90	Jan.1... .90	Feb.17.. 2.10	Nov.9... .80
Rock Creek	2.00	Mar.10.. 1.70	Jan.1... .60	Feb.17.. 1.75	Nov.9... .60
Osage	2.15	Mar.10.. 1.90	Jan.1... .90	Feb.17.. 2.10	Nov.9... .80
Cat Creek, Mont	2.15	Mar.10.. 1.95	Jan.1... .95	Feb.17.. 2.10	Nov.9... .95
Sunburst, Mont	1.20	Mar.10.. 1.05	Jan.1.... 70	Feb.17.. 1.50	June 6.. .70

CALIFORNIA

14-19.9	$1.25	25-25.9	$1.44	30-30.9	$1.64
20-20.9	1.27	26-26.9	1.48	31-31.9	1.68
21-21.9	1.30	27-27.9	1.52	32-32.9	1.72
22-22.9	1.33	28-28.9	1.56	33-33.9	1.76
23-23.9	1.36	29-29.9	1.60	34-34.9	1.80
24-24.9	1.40			35 and above	1.85

ROSECRANS FIELD

36-36.9	$1.92
and for each increase of one full degree above 36° gravity, up to and including 41.9° gravity, 8 cents per barrel additional	
2 and above	$2.40

Gulf Coast Lubes Move More Actively

HOUSTON, March 14.—Movement of Gulf Coastal lubricants quickened as the month proceeded and present spot shipments are greater than they were earlier in the month. Sales are satisfactory and storage quantities represent only working stocks or oil that manufacturers desire to carry against the future. Gulf coastal fuel, which is always available only in limited quantities, is holding firm at $2.10 to $2.15, despite deliveries of Luling crude fuel now being laid down in the Houston district at $1.90 a barrel. Gas oil is firm at recently prevailing prices and no large quantities are available except at the high price of the range.

Cargoes Clearing From N. Y.

Date	Destination	Product	Quantity
Feb. 26	Hamburg	Lubes	1,549,839 gals.
Mar. 6	Calcutta	Ref. Pet.	3,714,893 gals.
Mar. 4	Marseilles	Gasoline	1,538,368 gals.
Mar. 4	Marseilles	Gas Oil	214,004 gals.
Mar. 2	Trieste	Lubes	206,898 gals.
Feb. 27	Napier	Gasoline	1,500 cases
Feb. 27	Auckland	Gasoline	9,000 cases
Feb. 27	Auckland	Kerosene	1,000 cases
Mar. 4	Saigon D.E.I.	Ref. Pet.	75,000 cases
Mar. 4	Saigon	Gasoline	5,000 cases
Mar. 4	Saigon	Lubes	1,440 cases
Mar. 4	Wanguni, N.Z.	Ref. Pet.	10,000 cases
Mar. 4	Wanguni	Naphtha	15,800 cases
Mar. 4	New Plymouth, N. Z.	Ref. Pet.	6,000 cases
Mar. 4	New Plymouth	Naphtha	10,000 cases
Mar. 4	Sydney (Aust.)	Ref. Pet.	12,000 cases
Mar. 4	Melbourne (Aust.)	Ref. Pet.	2,800 cases

Oil Fuel Trade Paper Started in Chicago

Staff Special

CHICAGO, March 16.—The first issue of "Home Fires" came of the press during the last few days of February. It is a monthly publication and this is the March issue of the newcomer. The paper is in magazine form 5¼ x 7 inches and printed in two colors. Its mission is to build good will among the users of oil fuel. It will be distributed by oil companies among their customers as a selling and educating medium.

Home Fires is a syndicated house organ, usable by any number of oil companies in the fuel business, provided their trade territories do not overlap too much. Of course there are certain alterations made for each company issuing it to its trade as the company's own advertisement is to appear on page 8, the back cover. The enterprise was launched by Ray Shaw of the Sadler advertising agency, and the editorial matter is written by J. B. Waldo, one of the oldest oil writers in the industry.

TULSA,—Joe R. Cleveland, formerly sales manager for the Sagamore Oil Corp., has opened offices at 301 Atco Bldg., here and will engage in the marketing of petroleum products under the name of the Tulsa Petroleum Co.

Refiners', Compounders' Supplies

Following are the average market prices for the week on materials used by refiners and compounders f. o. b. shipping point as effective this date.

Refiners' Supplies

	Mar. 16	Mar. 9
Soda Ash light 58% bags cwt.	-$1.38	-$1.38
Silicate of Soda 60 deg. drums.....cwt.	- 1.70	- 1.70
Sal Soda wks.....cwt.	1.10- 1.25	1.10- 1.25
Caustic Soda 76% solid.cwt.	- 3.10	- 3.10
Chloride of Lime.....cwt. works.....1.90- 2.10	1.90- 2.10	
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point.....per ton	9.50-11.00	9.50-11.00

Compounders' Supplies (Open Market)

Vegetable Oils—		
Linseed carloads spot...gal.	- 1.14	- 1.16
March.....	- 1.14	- 1.16
March-April.....	- 1.16	- 1.17
May-August.....	- 1.17	- 1.18
Tanks, spot.....	- 1.08	- 1.10
Less carload spot.....gal.	- 1.17	- 1.19
Less than 5 bbls. spot.....	- 1.20	- 1.22
Boiled tank spot.....	- 1.09	- 1.11
Boiled, carloads spot....gal.	- 1.17	- 1.19
*Soya Bean spot, tanks..lb.	- .12	- .12
Animal Oils—		
English Degras.....lb.	-.04¾	-.04½
Domestic Degras, bbls., carloads.....lb.	-.04¾	-.04¾
*Horse.....lb.	-.09½	-.09½
Oleic Acid—		
Dist.....lb.	-.11¼	-.11¼
Saponified.....lb.	-.11¼	-.11¼
Lard Oils—		
Prime Winter Strained.. 1 to 1½ffa.40‡45c.t.lb.	.19¾	.17⅞
Extra Winter Strained.. 2 to 4½ffa.40/45c.t.lb.	.15½	.15½
Extra..... 4 to 5 ffa.40/45c.t.lb.	.14½	.14½
Extra No. 1. 7 to 10 ffa.40/50c.t.lb.	.13½	.13½
No. 1.....15 to 18 ffa.40/45c.t.lb.	.13	.13
No. 2.....22 to 23 ffa.40/45c.t.lb.	.12½	.12½
Prime Edible Tallow under 1¾ ffa. 40/45c.t.N. Y.....lb.	-.11	-.10
Tallow acidless.....lb.	-.15¼	-.13¼
Lard Stearine.....lb.	-.18½	-.18
Oleo Stearine.....lb.	-.13	-.11¼
Neatsfoot Oil—		
Pure.....bbls.-lb.	.14½	.14½
Extra.....do lb.	.13½	.13½
No. 1.....do lb.	.13	.13
Cold pressed.....lb.	.17¾	.17½
Fish Oils—		
Menhaden Oil Light pressed.....gal.	-.78	-.78
White.....gal.	-.83	-.83
Yellow bleached.....gal.	-.80	-.80
*Herring tank cars coast.....gal.	-.40	-.40
Whale, extra winter bleached.....gal.	- 80	-.80
Seal.....gal.		Nominal
Naval Stores—		
Turpentine, N. Y.....gal.	.93½	.93
Turpentine†.....gal.	.87	.87½
Rosin, B. N. Y.....Bbl.	8.25	8.25
Rosin F. N. Y.....Bbl.	8.35	8.25
Rosin B†.....Bbl.	6.95	6.80
Rosin F†.....Bbl.	6.95	6.80
Rosin Oil 1st run.....gal.	.48	.48
Rosin Oil 2nd run.....gal.	.51	.51
Pine Tar—		
Kiln Burnt.....Bbl.	13.50	13.50
Retort.....Bbl.	13.50	13.50

†Savannah, Ga. market.
*Nominal.

Animal Oils Are Firm; Linseed Steady

By Special Correspondent

NEW YORK, March 16—Following is a review of the markets for oils and supplies used in compounding and refining;

Caustic Soda.—Heavy contract withdrawals keep prices firm. Stocks small. Prices unchanged. Export inquiries more numerous. Some manufacturers sold up to end of year.

Soda Ash.—Steady demand for both prompt and future shipment. Jobbing demand more active. Prices steady. Stocks small.

Animal Oils.—Slightly firmer. Lard oil demand more spirited. Neatsfoot oil tending higher. Degras marking time at unchanged prices. Oleo stearine steady at 13 cents. Horse oil firmer.

Fish Oils.—Crude menhaden firm at 55 to 60 cents, tanks, factory. Light pressed menhaden moving more freely at 78 cents. Yellow bleached in good demand. Sperm oil marking time. Herring oil dull, unchanged.

Linseed Oil.—Steady. Buying routine. Movement chiefly against contracts. Stocks on hand small. Export inquiry light. Paint and linoleum makers are chief buyers. Soya bean oil in better demand at 13 cents in barrels, New York.

Naval Stores.—Turpentine demand slightly more spirited. Stocks moderate. Rosins in better export demand. Southern markets steady. Rosin oil moving more freely. Tar and pitch quiet and unchanged.

Tide Water Wins Reparation

WASHINGTON, March 16.—An award of reparation well above $100,000 has been made to the Tide Water Oil Co. and the Tide Water Oil Sales Corp. by the Interstate Commerce Commission in Tide Water Oil Co. et al. vs. East Jersey Railroad & Terminal Co. The case was a complaint by the Tide Water companies against their own railroad in which the rate regulating body said the terminal railroad and the trunk lines had charged the complaining oil companies too high rates back in 1921. The complaint was made with a view of obtaining a better rate adjustment for the terminal company. The award to the Tide Water amounts to $52,488 with interest at the rate of 6 per cent since August 15, 1921. The award to the sales corporation amounts to $36,353, also with interest, the latter, however, to run from Sept. 1, 1921.

PIERRE, S. D.,—The state senate has passed Senate Bill 196 increasing the state tax on gasoline from 2 cents to 3 cents a gallon. The lower house has not voted on the measure but it is not thought likely to fail to pass it.

OIL STOCKS AND FINANCES

Plan for Re-Organizing Caddo is Offered

PHILADELPHIA, March 17.—Plan for reorganization of the Caddo Central Oil & Refining Corp. and the Caddo Oil & Refining Co. has been sent the holders of the former's first consolidated mortgage 6 per cent bonds and the latter's first mortgage 6 per cent bonds.

It is recommended by the bond holders' protective committee that the two mortgages be foreclosed and a new company formed and capitalized as follows: $500,000 mortgage bonds, $2,602,935 cumulative preferred 6 per cent stock, and 200,000 shares of no par common.

The amount of the bonds would be subject to possible increase to a total of $800,000 to retire the tank car certificates.

Holders of Caddo Oil & Refining bonds to receive $870 par value of preferred stock and ten shares of common for each $1,000 bond; holders of Caddo Central bonds to receive $300 par value of preferred stock and twenty shares of common for each $1,000 bond.

It is recommended that common shares be given to the purchasers of the new bonds and if an offer is made to present stockholders, common shares be made available for issue to them.

The committee says that a large amount of both issues of bonds have been deposited.

Financial Notes

Standard Oil Co. of Kansas.—Directors and officers re-elected at annual meeting.

Pan-American Petroleum & Transport Co.—$12,000,000 of 10-year convertible 6% sinking fund gold coupon bonds due Nov. 1, 1934, admitted to New York Stock Exchange on notice of exchange for temporary bonds.

Magnolia Petroleum Co.—All trustees and officers re-elected.

Houston Oil Co.—Directors and officers re-elected at annual meeting.

Union Oil Co. of Delaware.—Statement issued that company has no assets except cash which is being held pending settlement of federal taxes, upon which final distribution depends. Principal assets were sold three years ago to Shell Union Oil Corp.

Middle States Oil Corp.—Stockholders' protective committee extends to April 6 the time in which shares may be deposited without payment of more than 5 cents per share.

Cleveland Stock Market

	Par	March 13 Bid	Asked
Canfield Oil Co.,....	$100	135	.....
do pfd.....	100	.....	96
Fred G. Clark Co...	10	4½	6
National Refin. Co..	25	.....	40½
do pfd.....	100	.....	.....
Paragon Refin. Co..	25	7½	7¾
do pfd.....	100	64	70

x—Ex dividend

Oil Dividends

	Amount	Payable	Stock of Record
Canfield Oil q.....	$1.50	Mar. 31	Mar. 20
do extra stock.....	20%	Mar. 31	Mar. 20
do pfd.....	$1.75	Mar. 31	Mar. 20
Humble q.....	30c	April 1	Mar. 17
Magnolia q.....	$1	July 5	June 19
do extra stock.....	1%	April 1	Mar. 12
do extra stock.....	1%	Oct. 5	.....
Mountain Prod. q.....	20c	April 1	Mar. 16
do extra.....	25c	April 1	Mar. 16
Okla. Nat. Gas q.....	50c	April 20	Mar. 27

British American Issues More Common Stock

TORONTO, March 17.—The British American Oil Co., which does a distributing business in Canada, offered stockholders of March 17 record, additional common stock at $30 a share at the rate of one share for each five now held.

Subscription rights expired March 18. This new issue will bring the company's outstanding capital stock up to $6,600,000.

The company's announcement said subscriptions must be made at the company's of Toronto, or at the offices of the Royal Bank of Canada, 68 Williams St., New York.

The British American is one of the largest distributors of petroleum productes in the United States.

Lone Star Gas Nets More in 1924

PITTSBURGH, March 14.—Lone Star Gas Co. reports for 1924 net earnings after all charges including depreciation and depletion, of $1,620,563 equivalent to $3.70 a share. In 1923 the company's earnings were $3.24 a share. The company has outstanding 427,000 shares of $25 par value each. Income accounts for the last two years compare:

	1924	1923
Gross earnings	$7,464,236	$6,646,245
Expenses	3,532,287	3,492,049
Net earnings	$3,931,949	$3,154,196
Depreen. & deplet.	1,418,454	1,255,592
Other chgs.	892,932	514,371
Net profits	$1,620,563	$1,384,233

Galena Signal Reports Lower Earnings

CLEVELAND, March 14.—The financial statement of the Galena Signal Oil Co. and subsidiaries for 1924, indicates that profits after all charges including depreciation, depletion, taxes and inventory adjustments were $855,107, equivalent after dividends on the preferred stock to $2.35 per $100 share on the common stock. In 1923 the net on the common was $5.02 per share.

On Dec. 31 current assets of the company and subsidiaries totaled $15,574,217 and current liabilities $2,606,760, leaving working capital of $12,967,457. At the end of 1923 net working capital was $14,863,301.

At the recent annual meeting in Franklin, Pa., J. C. Tipton, New York, was elected a director in place of H. S. Skinner who retired on account of illness. All other directors and officers were re-elected.

Consolidated balance sheets as of Dec. 31, 1924 and 1923 compare:

Assets

	1924	1923
Cash	$1,301,288	$912,652
Acc'ts receiv.	4,165,084	3,695,945
Bills receiv.	251,795	353,526
Securities	1,864,966	2,919,873
Inventories	7,981,084	8,753,019
Def. charges	772,606	989,002
Plant, equip., and real estate	17,883,398	16,469,696
Goodwill, trademarks, etc.	6,950,000	6,950,000
Sinking fund	23	101
Total	$41,170,244	$41,043,814

Liabilities

Acc'ts payable ...	$1,177,086	$899,039
Bills payable	1,197,238	528,535
Acc. int. taxes, etc.	232,437	344,141
Reserves	7,445,238	7,604,262
1st mort. bonds ..	2,800,000	2,800,009
Debentures	4,819,700	5,104,400
Pfd. stock, old ...	2,000,000	2,000,000
Pfd. stock, new ..	4,000,000	4,000,000
Common stock ...	16,000,000	16,000,000
Surplus	1,498,545	1,763,438
Total	$41,170,244	$41,043,814

Superior's Losses Continue

NEW YORK, March 14.—Superior Oil Corp., reports a deficit of $262,127 after expenses, interest, depreciation and depletion for the fourth quarter of 1924. In the third quarter the corporation's loss was $5,362. In the fourth quarter of 1923 the company suffered a net loss of $225,871. The profit and loss account on Dec. 31 shows a deficit of $2,246,177. Condensed income account for the fourth quarter of 1924 and 1923 compare:

	1924	1923
Gross income	$371,088	$245,847
Expenses and int.	238,369	178,747
Deprec. and depl.	394,847	292,971
Deficit	$262,128	$225,871

Transactions In Oil Shares on New York Stock Exchange

1924 High	1924 Low	1925 High	1925 Low		Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Mar. 14 Sales	First	High	Low	Last	Ch'ge
48	25	66¼	48	(sh)	200,000	N.P.	American Republics	.....	.....	300	59	59	59	59	+2
34½	27½	39½	33	$	56,000,000	$25	Associated Oil	37½cQ	Jan. 26, 25	6,100	36⅞	36⅞	34½	35	—1½
140⅜	78½	117½	95½		50,000,000	100	Atlantic Refining	.....	June 16, 24	6,000	111	112	107	112	0
118	108	114¾	113½		20,000,000	100	do pfd	$1¾Q	Feb. 2, 25	.....	.....	.....	.....	.....	.....
23⅜	14	30	21½		13,000,000	25	Barnsdall Corp. A	.....	Apr. 30, 21	39,200	28¼	28¾	25¼	25⅝	—2⅛
17⅜	10	23	17½		3,713,270	25	do B	.....	Apr. 30, 21	2,000	22¼	22¼	20½	20½	—1⅞
4¼	1	2¾	1⅜	(sh)	150,000	N.P.	Caddo Central O. & R	.....	.....	1,900	1¾	1¾	1¾	1¾	— ⅛
29¼	19½	32⅞	23⅞	$	17,377,000	$25	California Petroleum	43¾cQ	Dec. 1, 24	139,800	31⅝	32⅝	30	30¾	—2
107	92½	113½	100		11,955,100	100	do pfd	$1¾Q	Jan. 2, 25	4,900	112½	*113½	111½	113	+1⅜
40¼	22⅝	35⅜	26¾	(sh)	1,257,800	N.P.	Cosden & Co	.....	Aug. 1, 23	47,500	33	33½	30½	31	—2⅛
95	80	90¾	83	$	6,998,000	$100	do pfd	$1¾Q	Dec. 1, 24	.....	.....	.....	.....	.....	.....
63⅜	31⅜	63¾	55		19,832,000	100	General Asphalt Co	.....	.....	8,600	56	56¾	53	54½	—2½
100	71½	100	92		7,416,000	100	do pfd	$1¾Q	Dec. 1, 24	300	94	94	†92	92	—4
45	38⅜	57⅝	42		28,860,150	25	General Petroleum	50cQ	Dec. 15, 24	76,100	55½	55⅝	52¾	53½	—2⅝
82½	61	85	75⅝		25,000,000	100	Houston Oil Co	.....	.....	14,200	79	79	†75⅛	75⅝	—3½
16¼	5¾	33½	13½	(sh)	450,000	N.P.	Independent Oil & Gas	25cQ	Dec. 31, 24	117,300	x32	x32¾	x28¼	x30⅜	—2¼
7⅛	3¾	10⅜	5½	$	7,830,450	10	Indian Refining Co	.....	Dec. 15, 20	1,700	7¾	8	7¾	7⅞	—1¼
75	60	95	80		2,296,400	100	do pfd	.....	Dec. 15, 21	100	85	85	85	85	—7½
1	⅛	1¼	⅜		1,649,390	$10	Kansas & Gulf Corp	.....	.....	200	⅜	⅜	½	½	0
.....	.....	23¾	16¾	(sh)	715,944	N.P.	Louisiana Oil Refining	.....	.....	30,200	20¼	20¼	17½	18¾	—1⅞
37½	24⅜	35½	27¼	(sh)	324,300	N.P.	Maracaibo Oil	.....	.....	3,400	28⅛	30½	28⅜	29¼	0
42	29	46¼	38¾	(sh)	1,649,477	N.P.	Marland Oil Co	.....	July 1, 23	77,700	42¾	42¾	40½	40⅞	—1⅜
190	190	225	225	$	45,942,800	$100	Mexican Petroleum Co	$3Q	Jan. 20, 25	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....		12,000,000	$100	do pfd	$2Q	Jan. 20, 25	.....	.....	.....	.....	.....	.....
25¾	14⅜	22¾	14¾	(sh)	945,989	N.P.	Mexican Seaboard Oil	.....	Nov. 15, 24	5,700	15¾	15½	14¾	15	— ½
6⅞	1	1⅝	1⅛	$	29,800,220	$10	Middle States Oil Corp	.....	July 1, 23	5,700	1⅜	1⅜	1⅛	1¼	0
58¾	45	65½	53¾	(sh)	3,500,000	N.P.	Pacific Oil Co	$1S.A.	Jan. 20, 25	58,600	61⅛	61⅜	57¾	58	—3
65	44⅜	83⅞	64	$	48,292,450	$50	Pan American P. & T	$1Q	Jan. 20, 25	43,400	80	80	75½	77	—3⅝
64⅜	41¾	84½	63⅜		86,991,700	50	do Class B	$1Q	Jan. 20, 25	289,000	80⅛	81	76	78	—3⅛
4½	1⅝	5⅜	3	(sh)	198,770	N.P.	Panhandle P. & R	.....	.....	600	4⅞	5	4⅝	4⅝	— ½
42½	29	60½	43	$	2,935,200	$100	do pfd	.....	July 2, 23	400	60	60¼	60	60	0
42½	28⅜	46⅜	36⅜	(sh)	1,849,896	N.P.	Phillips Petroleum	50cQ	Jan. 2, 25	57,000	43½	43½	41	41½	—1⅜
4½	1⅜	3⅝	1¾	$	29,622,925	$25	Pierce Oil Corp	.....	.....	7,000	2½	2⅝	2½	2⅝	0
36	20	40	25½		15,000,000	100	do pfd	.....	Feb. 1, 22	400	36	36	34	34	—2½
5¾	4⅜	8¼	5¾	(sh)	2,500,000	N.P.	Pierce Petroleum	.....	.....	12,900	7⅜	7¾	7	7⅛	— ⅜
43½	22¾	32⅝	25½	$	11,467,850	50	Producers & Refiners	.....	Sept. 15, 23	3,900	28¼	28¼	†25½	26	—2
47½	42	47⅝	43½		2,845,350	50	do pfd	87½cQ	Feb. 2, 25	200	45½	45½	45½	45½	0
30¼	20	33¾	29		71,316,575	25	Pure Oil Co	37½cQ	Dec. 1, 24	27,200	30⅝	30¾	†29	29⅛	0
105¾	92	106¼	104¾		13,000,000	100	do 8% pfd	$2Q	Jan. 2, 25	100	106	106	106	106	0
59½	40⅜	57⅜	51⅛	(sh)	728,141	13.40	Royal Dutch, N. Y. shares	$3.18½	Aug. 12, 24	16,900	54⅜	54⅜	51¼	52	—2⅜
42	33	45¾	41	(sh)	123,120	£2	Shell Transport & T	95c	Jan. 24, 25	500	42½	42½	42¼	42¼	— ⅛
22½	15¾	28⅜	22½	(sh)	10,000,000	N.P.	Shell Union Oil Corp	25cQ	Dec. 31, 24	37,300	25⅜	25½	24⅝	25	— ⅜
99½	91½	101½	99½	$	20,000,000	$100	do pfd	$1½Q	Feb. 15, 25	200	101	101	101	101	+ ½
24	10⅜	26¾	20¼		7,205,060	10	Simms Petroleum Co	50Q	Jan. 2, 25	22,900	23	23⅝	21⅝	22⅛	— ⅛
27⅞	15	24⅞	17	(sh)	4,481,282	N.P.	Sinclair Consolidated	.....	May 31, 24	46,200	21½	21⅝	19¼	20	—2
90	75	94⅜	78¾	$	18,541,100	$100	do pfd	$2Q	Feb. 16, 25	300	88	88	87½	87½	—1
29	17⅜	30⅝	24⅜		25,654,000	25	Skelly Oil Co	.....	.....	19,000	28	28	26¼	26¾	—1½
68½	55⅞	67¼	60		235,228,425	25	S. O. California	50cQ	Mar. 16, 25	25,600	62⅝	62⅝	†60	60½	—2⅛
42¼	33	47½	40⅜		507,301,775	25	S. O. New Jersey	25cQ	Mar. 16, 25	57,600	43	43¾	41½	42⅝	— ¾
119⅜	115¾	119	116¾		199,972,900	100	do pfd	$1¾Q	Mar. 16, 25	2,800	117½	117½	116⅜	117	— ½
8½	2¾	6¼	4⅜	(sh)	1,112,268	N.P.	Superior Oil Corp	.....	Dec. 20, 20	7,100	4⅞	4⅞	† 4⅜	4⅜	— ½
45⅜	37¾	49	42¾	$	164,450,000	$25	The Texas Co	75cQ	Dec. 31, 24	27,800	46¼	46⅞	45⅛	45¼	—1⅜
15¼	8	23⅜	11½		8,380,340	10	Texas Pacific Coal & Oil	.....	June 30, 23	36,800	20⅛	20⅝	17¾	18	—2¼
151	116¼	152	130		50,004,000	100	Tide Water Oil Co	$1Q	Dec. 31, 24	8,200	145½	145½	137	137	—8½
6¼	3¾	5½	3⅞	(sh)	3,132,529	N.P.	Transcontinental Oil Co	.....	.....	25,200	4⅜	5	4⅜	4⅞	+ ⅛
39	35	43⅜	37¾	$	40,480,800	$25	Union Oil of California	45cQ	Feb. 10, 25	27,300	40¾	40½	38½	39⅛	—1⅜
132⅞	94	128⅛	118½		18,115,000	$100	Union Tank Car Co	$1¼W	Dec. 1, 24	700	123	123	121	123	— ½
116¾	106¼	116⅝	113¾		12,000,000	100	do pfd	$1¾Q	Dec. 1, 24	.....	.....	.....	.....	.....	.....
29⅜	23⅛	31¾	27	(sh)	460,000	N.P.	White Eagle Oil & Ref	50cQ	Jan. 20, 25	6,400	28½	28½	†27	27⅛	—1⅜

*New High †New Low xEx-Dividend Total Sales 1,457,900

Standard Oil Stock Traded In New York Curb Market

1924 High	1924 Low	1925 High	1925 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Mar. 13 Sales	First	High	Low	Last	Ch'ge
18¾	14⅜	21⅜	18	£3,000,000	£1	Anglo American	45cS.A.	Nov. 15, 24	18,300	20¼	*21⅛	20⅛	20⅜	+ ⅜
4⅞	2	4	2¾ (sh)	500,000	N.P.	Atlantic Lobos	.....	.....	300	3	3	2¾	2¾	.....
16	5	10¾	6¾	$10,000,000	$10	do pfd	.....	.....	.....	.....	.....	.....	.....	.....
265	155	259	212½	1,000,000	$100	Borne-Scrymser	$4S.A.	Oct. 15, 24	70	214	218	214	218	—5½
85½	51	72	62	10,000,000	50	Buckeye Pipe Line	$1Q	Mar. 14, 25	140	66	66¼	65	65	— ¾
52½	47¾	70	48½	3,000,000	25	Chesebrough Mfg. Co	62½cQ	Dec. 29, 24	15,700	57	57¼	56	57¼	—2
115	112	114	110	1,000,000	100	do pfd	$1¾Q	Dec. 29, 24	20	110	110	†110	110	.....
54⅞	39¾	.....	.....	10,000,000	25	Continental Oil	50cQ	Dec. 15, 24	.....	.....	.....	.....	.....	.....
.....	.....	31¾	25½	.....	$10	Continental New V. T. C	25cQ	Mar. 16, 25	44,200	28¼	28¼	26½	26¾	—1⅝
20	11½	15⅜	12½	1,500,000	25	Crescent Pipe Line	.....	Sept. 15, 23	300	12½	12⅝	†12½	12⅝	.....
149	110¾	150	132½	3,000,000	100	Cumberland Pipe Line	$3Q	Mar. 16, 25	100	133½	134½	133½	134	+1½
105	74	96	83	5,000,000	100	Eureka Pipe Line	$1Q	Feb. 2, 25	30	83	84	83	83	—1
69¾	52	65	56¾	16,000,000	100	Galena Signal Oil	$1Q	Dec. 31, 24	300	60½	60½	60	60	—3
113	100½	105	102	4,000,000	100	do new pfd	$2Q	Dec. 31, 24	50	102	102	102	102	.....
116	110	.....	.....	2,000,000	100	do old pfd	$2Q	Dec. 31, 24	.....	.....	.....	.....	.....	.....
43¾	34½	47¾	42½	43,750,000	25	Humble Oil & Ref	30cQ	Jan. 1, 25	7,000	46⅛	46⅜	44¾	44¾	—1¼
161	120	154½	127	20,000,000	100	Illinois Pipe Line	$6S.A.	Dec. 30, 24	380	148	150	146	146	—1½
119	98½	134¾	119½	39,222,750	25	Imperial Oil Coupons	75cQ	Dec. 1, 24	.....	.....	.....	.....	.....	.....
.....	.....	34⅜	29½	.....	$25	Imperial New w. i	25c	Mar. 1, 25	12,400	30⅞	31	†29½	30	— ¾
100	66	84	73	5,000,000	50	Indiana Pipe Line	$1Q	Feb. 14, 25	120	77	77	75	75	—2
24¾	16¾	28¾	23 (sh)	7,118,138	N.P.	International Petroleum	25c	Nov. 29, 24	39,200	26⅞	26⅞	25¼	25⅜	—1½
162	122	159	137 $	188,000,000	100	Magnolia Petroleum	$1Q	Jan. 5, 25	590	144	145	139½	139½	—3⅝
25⅞	20⅝	25½	23	6,362,500	12½	National Transit	50cQ	Mar. 16, 25	400	23¾	23¾	23¼	23¼	0
97	54½	79	65½	5,000,000	100	New York Transit	50cQ	Jan. 15, 25	110	72	72	70	70	—2
107½	72	88	81⅝	4,000,000	100	Northern Pipe Line	$3S.A.	Jan. 1, 25	140	85	85	84	84	—1
79½	55	75	64	60,000,000	25	Ohio Oil Co	50cQ	Dec. 31, 24	3,400	71¼	71¼	69¾	69¾	—2
43	27	44½	35¾	10,000,000	25	Penn.-Mex. Fuel	.....	.....	1,700	40⅛	40½	40	40	—1
269	198	259½	209	60,000,000	100	Prairie Oil & Gas	$2Q	Jan. 31, 25	.....	.....	.....	.....	.....	.....
54¼	49½	65½	52¾	.....	$25	Prairie O. & G. New w. i	.....	.....	10,500	60½	60½	56	56⅛	—4⅛
111	100	126	106	81,000,000	100	Prairie Pipe Line	$2Q	Jan. 31, 25	3,160	121¾	122¾	121	121	— ¾
230	175	259	200	4,000,000	100	Solar Refining Co	$5S.A.	Dec. 20, 24	50	232	232	225	225	—9
100	80½	103	84	10,000,000	100	Southern Pipe Line Co	$1Q	Mar. 1, 25	180	86	86	84½	85	0
171	117	197	139	20,000,000	100	South Penn Oil Co	.....	Sept. 30, 22	1,370	185	186	176	176	—9½
89	68	84	71	3,500,000	100	Southwest Pa. Pipe Lines	$1Q	Dec. 31, 24	110	73	73	†71	71	—2
68¾	54¼	70	62	223,756,258	25	S. O. Indiana	62½cQ	Mar. 16, 25	83,700	67	67	†62	62⅝	—4⅞
50¾	32½	46	36¼	8,000,000	25	S. O. Kansas	.....	June 16, 24	3,600	40¾	40⅞	†36¼	37	—4
121¾	101	124¾	116⅝	16,784,047	25	S. O. Kentucky	$1Q	Dec. 31, 24	2,100	117¾	118½	†116⅝	117½	—1½
262	198	270	244	3,000,000	100	S. O. Nebraska	$5S.A.	Dec. 20, 24	60	261	261	253	253	—8
48	37¾	48¾	43½	225,324,650	25	S. O. New York	35cQ	Mar. 16, 25	13,000	46	46	†43½	43½	—2¾
377½	275	369	338	14,000,000	100	S. O. Ohio	$2½Q	Jan. 1, 25	160	354½	354½	351	351	—1
136	115	123	117½	7,000,000	100	do pfd	$1¾Q	Mar. 2, 25	20	123	*123	123	123	+3
81	20	27	22	1,722,931	25	Swan & Finch	.....	Nov. 1, 19	140	23¾	24¾	23	23	— ½
83½	56½	96¼	80⅛	61,523,075	25	Vacuum Oil Co	50cQ	Mar. 20, 25	8,900	93⅜	93⅜	89¾	89⅞	—3½
30	25	30½	30	100,000	10	Washington Oil Co	.....	Jan. 31, 22	.....	.....	.....	.....	.....	.....

Canfield Oil Declares 20% Extra in Stock

CLEVELAND, March 14.—Canfield Oil Co. directors this week authorized an increase in the common stock from $750,000 to $1,250,000 and immediately declared a stock dividend of 20 per cent payable March 31 to holders of March 20 record.

The dividend will bring the total of Canfield outstanding common stock up to $900,000 and leaves in the treasury $350,000 par value for future distribution or to care for future development of the company.

Canfield paid 100 per cent in stock in 1920. Last year it paid 6 per cent regular and 2 per cent extra on the common stock.

* * *

Magnolia to Pay Stock

DALLAS, March 13.—Magnolia Petroleum Co. has declared a stock dividend of 2 per cent; 1 per cent to be payable April 5 to stock of March 12 record and 1 per cent to be payable Oct. 5 to stock of record on a date to be fixed later. A cash dividend of $1 payable July 5 to stock of record June 19 also has been declared.

Valvoline Oil Co. Report

NEW YORK, March 14.—Current assets 10 to 1 over current liabilities and working capital of $4,634,548 is shown by the Valvoline Oil Co.'s balance sheet of Dec. 31. At the end of 1923 working capital was $4,988,307 and current assets almost 50 to 1 over current liabilities. The company made no earnings statement. The balance sheets as of Dec. 31, 1924 and 1923, compare:

Assets

	1924	1923
Real estate, plant ..	$2,076,762	$1,906,029
Equipment	461,335	381,220
Invests. in subs.	1,968,900	1,638,057
Other invests	140,597	109,750
Mortgages	17,250	.....
Treas. bonds	114,000	190,411
Deferred charges ..	138,910	171,676
Cash	511,206	1,076,716
Notes rec.	5,797	248,321
Accounts rec.	3,169,404	2,570,650
Inventories	1,369,932	1,206,658
Total	$9,974,153	$9,499,488

Liabilities

Preferred stock	$1,073,100	$1,093,800
Common stock	3,196,700	3,152,200
Funded debt	1,857,000	1,929,000
Deferred liabilities .	42,108	25,312
Sinking fund res. ..	61,625	61,625
Ins. reserve	.....	163,103
Other reserve	290,755	86,265
Surplus	3,031,074	2,874,145
Notes payable	340,000	.....
Accounts payable ..	81,791	114,038
Total	$9,974,153	$9,499,488

HOUSTON, TEX.—Keen & Woolf Oil Co. has appointed the Pure Oil Co. of Georgia as its agents in the southeast, according to C. D. Campbell of the Deepwater Oil Refineries, Inc.

Mr. Campbell says that this appointment means that " our good friend, Mr. Keller, will be missed from this territory in the future."

New York Curb Bonds

Week Ended March 14

	High	Low	Last	Ch'ge
Anglo-Amer 7½s	100	100	100	— ⅛
Cities Serv. 7s B	174	174	174	—1
do 7s C	122	120	120½	—2
do 7s D	103	101⅛	102	—1
do 8s E	112⅜	111½	112⅜	+1⅛
Gen. Pet. 6s	101⅞	101⅝	101⅞	+ ¼
Gulf Oil 5s	98¾	98⅝	98⅝	— ⅛
Pennok Oil 6s	99⅝	99½	99⅝	+ ¼
Pure Oil 6½s	101⅜	101	101⅜	+ ⅛
S. O. N. Y. 6½s	107½	106⅞	107¼	— ⅛
Sun Oil 5½s	97	96¾	96¾	— ¼
Union Oil Calif 5s	96	96	96	0
United Oil Prod. 8s	35	33	35	+2
Vacuum Oil 7s	107¼	106⅞	106⅞	0
Valvoline 7s	106	106	106	0

New York Bonds

Week Ended March 14

	High	Low	Last	Ch'ge
Atlantic Refg. debs 5s	99½	99¼	99½	+ ¼
Barnsdall Corp. 8s	105	104¾	105	+ ¼
Calif Petrol sf 6½s	103½	103	103	— ¼
Empire Gas & F 7½s	103	101¾	102½	— ½
Humble O. & R. 5½s	101	100⅜	100¾	— ¼
Marland 8s ser A	105⅜	105¼	105¼	— ⅛
do 8 w w	127½	127½	127½	+1½
Pan Amer P & T 6s	115	110½	111	—1¾
Pan Amer P & T 6½s	97	96	96	—1
do 7s	106½	105½	106½	+ ¾
Pierce Oil debs 8s	104	104	104	0
Prod. & Ref. 8s	110¼	110¼	100¼	— ⅝
Sinclair Con col 7s	93⅝	91½	91¾	—2
do 6s	113½	109½	111	—3¼
do 6½s	88¾	87½	88	— ¾
Sinclair Crude 6s	100⅛	99⅞	99⅞	0
Sinclair P L sf 5s	85¼	84¾	84¾	— ½
Skelly Oil 6½s	115½	112⅛	112⅛	—3⅝
Tidewater Oil 6½s	103¾	103½	103½	— ½
Union Oil of Calif 6s	103¼	103	103	0
do 5s	100⅛	100	100	0
Union Tank Car 7s	105	104¾	104¾	0

New York Curb Market

1924 High	1924 Low	1925 High	1925 Low	Par Value	Stocks	Transactions week ended Mar. 13 Sales	First	High	Low	Last	Ch'ge
.....	.....	4	2¾	....	Amer. Maracaibo	900	.....	3¼	3	3	— ½
7	4	8⅜	5½	10	Ark.Nat.Gas	300	6¾	6¾	6⅜	6⅜	— ⅜
1⅜	.75	.....	.....	1	Boston & Wyo	.....	.....	.....	.....	.....	.....
6⅝	2¾	4⅛	3⅜	25c	Carib.Synd	1,400	3¾	3¾	3½	3⅝	.....
190	132	212	176½	100	Cities Service	3,790	201	201½	188	191	—11
.....	.....	.....	.....	....	do new	4,700	.....	40	37¾	38¾	— ¾
82⅜	67¾	82¼	80¼	100	do pfd	1,200	82	82¼	81⅞	82	— ¼
7¾	6⅛	7¾	7⅜	10	do pfd. B	500	7½	20	18¾	19	—1
19	13¼	21⅜	17⅝	10	do Bkrs. Sh	.....	20	.....	.....	.....	.....
10⅝	2¼	11⅞	8¼	N.P.	Creole Synd	41,400	11⅞	11⅞	11⅜	11½	— ⅛
8	1½	7	4½	N.P.	Derby Oil & Ref	1,200	6½	7	6½	7	+1
34¼	17½	27	25	N.P.	do pfd	.....	1	.....	.....	.....	.....
.60	.12	.25	.18	5	Federal Oil	2,000	.....	20	18	18	—2
.60	.15	.27	.20	10	Glenrock	2,000	25	25	25	25	+3
67⅜	56	71	65	25	Gulf Oil Corp	5,800	67⅛	67¾	65	65	—2¼
7	1⅜	5⅞	2¾	N.P.	Kirby Petroleum	4,100	3¾	3½	3¼	3⅝	+ ⅛
6¾	2⅝	6¼	5	N.P.	Lago Petroleum	43,600	5¾	5¾	5¼	5⅜	— ⅜
4⅜	1½	4¼	1¾	N.P.	Marland of Mexico	100	.....	3½	3½	3½	+ ⅛
20¾	16	21⅞	18⅜	10	Mountain Prod	30,000	20⅞	21⅞	20⅜	21⅜	+ ⅜
14	9½	14⅜	11⅞	5	Mutual Oil ctfs	.....	.....	.....	.....	.....	.....
6¼	3½	5¼	3⅝	5	New Bradford Oil	12,400	4⅞	5¼	4⅞	5⅛	+ ⅜
44	17	24¾	19⅝	10	New England Fuel	.....	.....	.....	.....	.....	.....
14	8⅛	10	8¼	25	New York Oil	500	.....	9¾	9½	9½	— ½
33⅜	29⅜	33¾	31⅜	25	Ohio Fuel Corp	.....	.....	.....	.....	.....	.....
.80	.50	.....	.....	10	Omar O. & G	.....	.....	.....	.....	.....	.....
6	.70	1¾	1	N.P.	Peer Oil Corp	3,300	.....	1⅛	1	1	.....
18¼	12¼	25	16	10	Pennok Oil	1,900	23¾	24	22¾	22¾	—1¼
57¾	53¾	82½	18¾	25	Red Bank Oil	900	22¼	22¼	18¾	19	—5
5½	3	9½	3½	N.P.	Ryan Consolidated	64,200	7⅛	9½	6¾	6½	— ½
10¼	6	8⅝	6½	10	Salt Creek Cons	9,700	8¼	8⅝	8	8¼	+ ⅛
27⅞	19⅛	27⅞	24	10	Salt Creek Prod	19,500	26⅜	27½	25¾	27	+ ¾
2⅛	.80	2	1 1/16	5	Sapulpa Refining	.....	.....	.....	.....	.....	.....
1½	.30	.....	.....	5	Seaboard O. & G	.....	.....	.....	.....	.....	.....
16¼	6¼	13¾	10	10	Tidal Osage	400	.....	11	11	11	— ⅛
4⅛	2⅝	4⅜	3⅜	....	Venezuelan Pet	8,900	4⅜	4½	4	4⅛	— ⅛
8½	4⅝	7¾	5¾	5	Wilcox Oil & Gas	7,500	6⅝	6⅝	6¼	6⅜	— ⅛
13⅞	4¾	7	5	N.P.	Woodley Petroleum	1,500	6⅝	6¾	5¾	5¾	—1¼

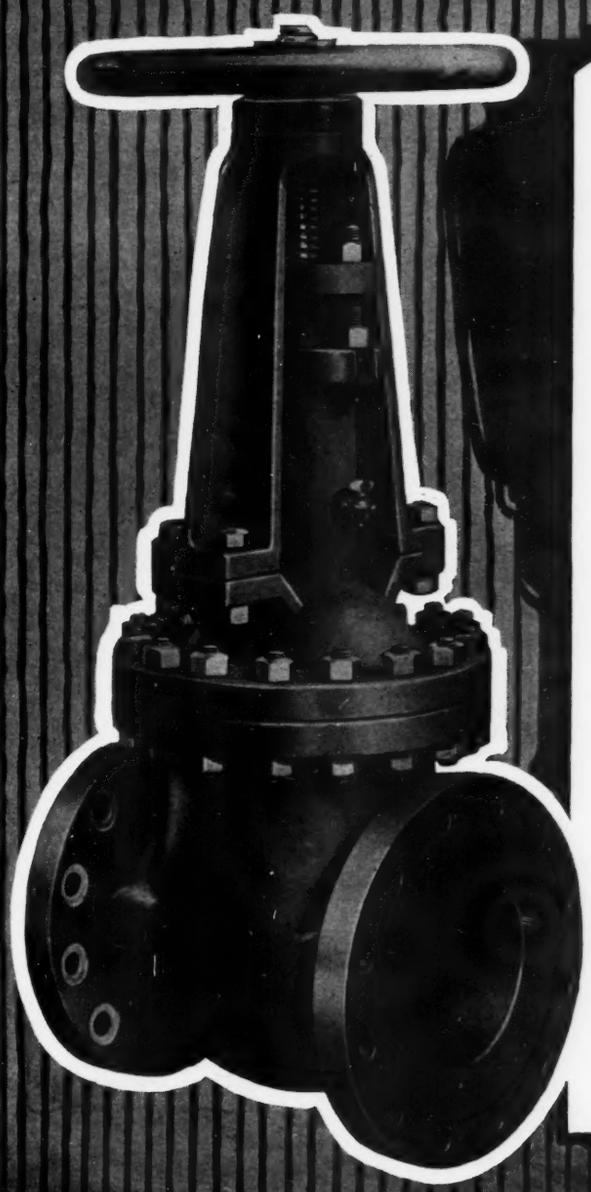
Pittsburgh Stock Exchange

1924 High	1924 Low	1925 High	1925 Low	Par Value	Stocks	Transactions Week Ended Mar. 13 Sales	First	High	Low	Last	Ch'ge
7	4	8⅛	5⅜	$10	Arkansas Nat. Gas	2,835	6⅞	6⅞	x6¼	6½	— ½
40½	35¾	.....	.....	N.P.	Columbia Gas	.....	.....	.....	.....	.....	.....
.....	.....	107	105¾	$100	Duquesne Lt.7s pfd.	110	106½	106¾	106¼	106¼	— ¼
30	30	.....	.....	25	Fayette County Gas	.....	.....	.....	.....	.....	.....
33½	26½	40	32¼	25	Lone Star Gas	3,158	39¼	40	39¼	39⅞	+ ⅝
33½	28½	34½	32	25	Ohio Fuel Corp	3,559	33⅞	34	33¾	33½	— ¼
16½	11⅜	16¼	13⅝	1	Ohio Fuel Oil	548	15½	16	15¾	15½	+ ⅛
28½	22¾	31½	26	25	Oklahoma Nat. Gas	505	30¼	30¼	29½	29½	— ½
9¾	6	8¾	7⅝	5	Pittsburgh O. & G	300	8	8	8	8	— ⅛
10½	6	8½	6¼	10	Salt Creek Cons	5,061	8⅛	*8⅛	x8	8¼	+ ⅛
16½	8	13⅝	8¼	10	Tidal Osage	.....	.....	.....	.....	.....	.....
92	92	.....	.....	100	do pfd	.....	.....	.....	.....	.....	.....

Pittsburgh Curb Market

1924 High	1924 Low	1925 High	1925 Low	Par Value	Stocks	Transactions Week Ended Mar. 13 Sales	First	High	Low	Last	Ch'ge
2½	2½	.....	.....	N.P.	Arkansas Fuel	.....	.....	.....	.....	.....	.....
1	.20	1½	.60	$5	Colombia Synd	.....	.....	.....	.....	.....	.....
.70	.25	.60	.15	5	Duquesne Oil	600	.21	.27	.21	.27	.....
9½	5½	9	7	10	Forest Oil	.....	.....	.....	.....	.....	.....
66¾	57	70	66½	25	Gulf Oil Corp	.....	.....	.....	.....	.....	.....
23¾	21	.....	.....	N.P.	International Pet	.....	.....	.....	.....	.....	.....
4½	4½	.....	.....	N.P.	Lago Petroleum	.....	.....	.....	.....	.....	.....
6	5	.....	.....	$10	Marshall Oil	.....	.....	.....	.....	.....	.....
2⅞	1½	2¾	2⅛	1	Oklahoma Eastern	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	1	do ex rights	5,552	1⅞	1⅞	1⅝	1⅝	— ⅛
.....	.....	.....	.....	....	do rights	2,203	¾	¾	½	½	— ⅛
.77	.35	.40	.40	10	Omar O. & G	.....	.....	.....	.....	.....	.....
8	3⅝	7	3	5	States Oil	.....	.....	.....	.....	.....	.....
14	10	11	9	10	TidalOsagenon-vot'g	.....	.....	.....	.....	.....	.....

*New High †New Low x Ex Dividend



Chapman Chrome Nickel Steel Valves For Refinery Service

(Stronger than Forged Steel)

PHYSICAL PROPERTIES

under 1000 degrees Fahr.

Elastic Limit - -	51,000 lbs. per sq. in.
Tensile Strength -	66,000 lbs. per sq. in.
Elongation in 2" - -	27%
Reduction Area - -	55%

The Chapman Valve Manufacturing Co.

Indian Orchard, Mass. U.S.A.

BRANCHES

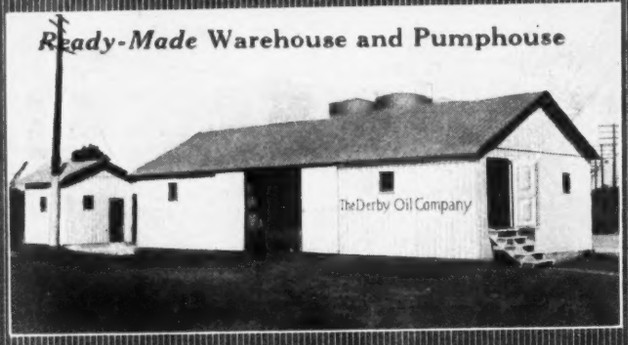
New York, Boston, Chicago, Syracuse, Pittsburgh, Philadelphia, San Francisco, Los Angeles, Cleveland, Houston, Atlanta, Tulsa, Detroit

CHAPMAN VALVES

***Ready-Made* Factory Building**
(60′ x 126′)

***Ready-Made* Bulk Station Buildings**

***Ready-Made* Warehouse and Pumphouse**



***Ready-Made* Office and Warehouse**

STEEL BUTLER PRODUCTS

Bulk Stations, Drive-In Stations, Warehouses, Garages, Shops, Etc.
ARE PRICED LOW!

READY-MADE—that's one reason our buildings are low priced. Simple design makes them attractive, rigid, easy and quick to erect and easy to move. Common labor can handle them.

BUTLER

Similar Parts Interchange!

Buildings are permanent or portable, as you wish. Salvage approx. 100%. Made entirely of steel. Sheets are tight-coated galvanized, specially and deeply corrugated. The Butler plan of construction is so perfect that most any building you may need can be had without special design. Send us a general idea of *your* needs. Prices are attractive. A descriptive catalogue sent on request.

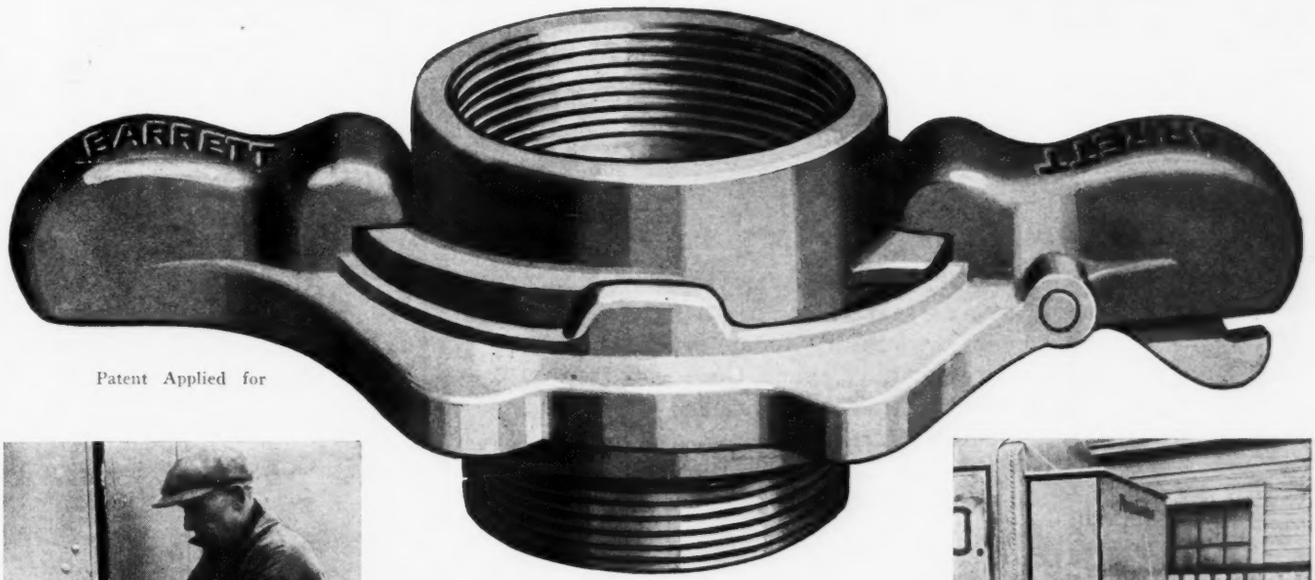
BUTLER

Manufacturing Company
Kansas City **Minneapolis**

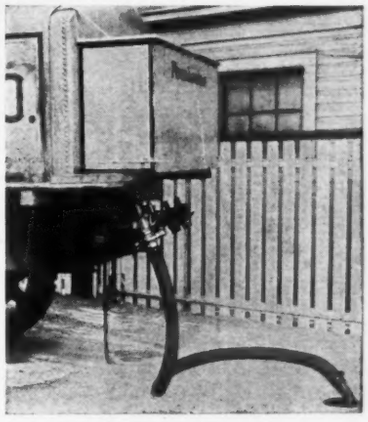
Bulk Stations Complete, Underground and Storage Tanks, Cans, Funnels, Buckets, Measuring Pumps, Etc

BARRETT

LEVER-LOCKED COUPLER



Patent Applied for



ONE
Quick Twist—
It's Locked on—
Leak-Proof

THE Barrett Coupler has very distinct advantages of efficiency and economy in making deliveries of gasoline from tank trucks. This modern coupler is attached easily and quickly to any type of tank faucet and hose. It is complete in itself, and requires no change in present equipment. Small containers can be filled without the hose as usual from the faucet.

The Barrett offers these chief points of importance to every tank truck operator:

1—It saves time; 2—It prevents waste;
3—It protects equipment

Made of durable brass, the Barrett coupler eliminates the need for frequent replacement of costly parts, such as faucets and hose nipples, because it covers and protects them from damage.

The Barrett is simple mechanically, and insures a perfect, non-leaking hose connection.

Send for illustrated folder

Manufactured by

THE CLEVELAND BRASS MANUFACTURING CO.

4640 Hamilton Ave. Cleveland, Ohio

CHAMPLIN
"A Straight Run Refinery"
As an oil man you know the big advantages of straight run gasoline over blended gasoline. You know that it is quicker starting, cleaner burning, more powerful and it prevents pre-ignition knocks without "doping."
The Champlin refinery here at Enid, which has been built up from 600 barrels to 20,000 barrels daily capacity in only seven years, is one of the few refineries in the country today making only straight run gasoline. Our steady growth, selling straight run gasoline exclusively, shows clearly that there is still an active demand for straight run gasoline—quality gasoline.
It will pay you in prestige and profits to sell Champlin Straight Run Gasoline. Every gallon that you sell adds to your reputation for dependable quality. Let us quote you now. Get some of this quality business.
CHAMPLIN REFINING CO.
PETROLEUM PRODUCTS
ENID, OKLAHOMA
CHAMPLIN OILS
CHAMPLIN PRODUCTS
Gasoline
Kerosene
Gas Oil
Fuel Oil
Bright Stock
Non-Viscous
Neutrals
Viscous Neutrals
Petrolatum
Paraffin Wax
Motor Oils
Tractor Oils
Steam Cylinder Oils

900 gallon, 5 compartment Heil Tank mounted on Pierce Arrow Bus chassis. Completely fitted with 14" manholes, 6" fillers, ¼" Full-Flow vents, 2" emergency valves with unit control, Lift-Lock hinged bumper, and hinged metal panel can rack

Have You Asked Heil For a Quotation?

BEFORE you buy that new truck and the tank to go with it, get in touch with Heil. Get the specifications, design, and price of a Heil-built tank. Find out what Heil tank engineers recommend for your chassis. It places you under no obligation to get a quotation from Heil—we're mighty glad to make one.

Whether it's a 300 gallon, 3 compartment tank for the Ford or a massive 2500 gallon tank for a heavy-duty unit, Heil Quality is built into every part of the job. It's Heil Quality plus the many patented features for safety and utility which you can only get on Heil Tanks.

WHY NOT SEND IN THE COUPON FOR OUR NEW TANK CATALOG. It's a mighty handy booklet for the man who buys your tank equipment. Just fill out the coupon below and put it in the mail.

THE HEIL CO.

1238-50 26th Ave. Milwaukee, Wis.

One of our Twenty-five Distributors is near You!

HEIL STANDARDIZED TRUCK TANKS

In addition to 300 gallon tanks for the Ford, Heil has standardized the 400 gallon, 3 compartment size for one and 1½ ton trucks. Every tank is furnished complete with metal panel hinged side racks, top hinged can box door, 1½" piping and faucets, subframe, 6" filler plugs, Full-Flow air vents, etc. Ask Heil about these standardized tanks. They are always in stock.

Please Send in the Coupon Today

The Heil Co.
1238-50 26th Ave., Milwaukee, Wis.
You may send me a copy of your new Tank Catalog.

Name.....

Address.....

City.....

Vogt
Drop Forged Steel Valves & Fittings

and their service to the Oil Industry

OIL is rated third among the industries of the country—being exceeded only by agriculture and the railroads. The investment in the oil industry today approximates fourteen billion dollars.

Thirteen years ago, the first Vogt Drop Forged Steel Valves and Fittings were made—one type of valve and a few fittings. Their growth and development have been less sensational than that of the oil industry, but steady and at an increasing rate. This is proof that their ability to stand up under difficult high pressure and high temperature conditions has been a genuine service to the oil industry.

At the last International Petroleum Exposition, 231 different Vogt Drop Forged Steel Valves and Fittings were displayed. Included were outside screw and yoke, bolted bonnet globe, angle and gate valves for pressures to 900 pounds at 1100° F. There were also many special drop forged steel valves and fittings developed by Vogt Engineers for refinery processes.

Future service of a more comprehensive nature is now being definitely prepared for. Research work in laboratory and field is constantly in progress to improve Vogt Drop Forged Steel Valves and Fittings and to anticipate the requirements of the Industry. The Vogt Organization will gladly and freely serve the oil industry in the solution of its valve and fitting problems.

HENRY VOGT MACHINE CO.

Incorporated

LOUISVILLE, KENTUCKY

NEW YORK · CHICAGO · PHILADELPHIA · DALLAS

Manufacturers of Drop Forged Steel Valves and Fittings, Oil Refinery Equipment, Water Tube and Return Tubular Boilers, Ice Making and Refrigerating Machinery

THE ACE OF SALES BOOSTERS

Patents—
Patents Pending

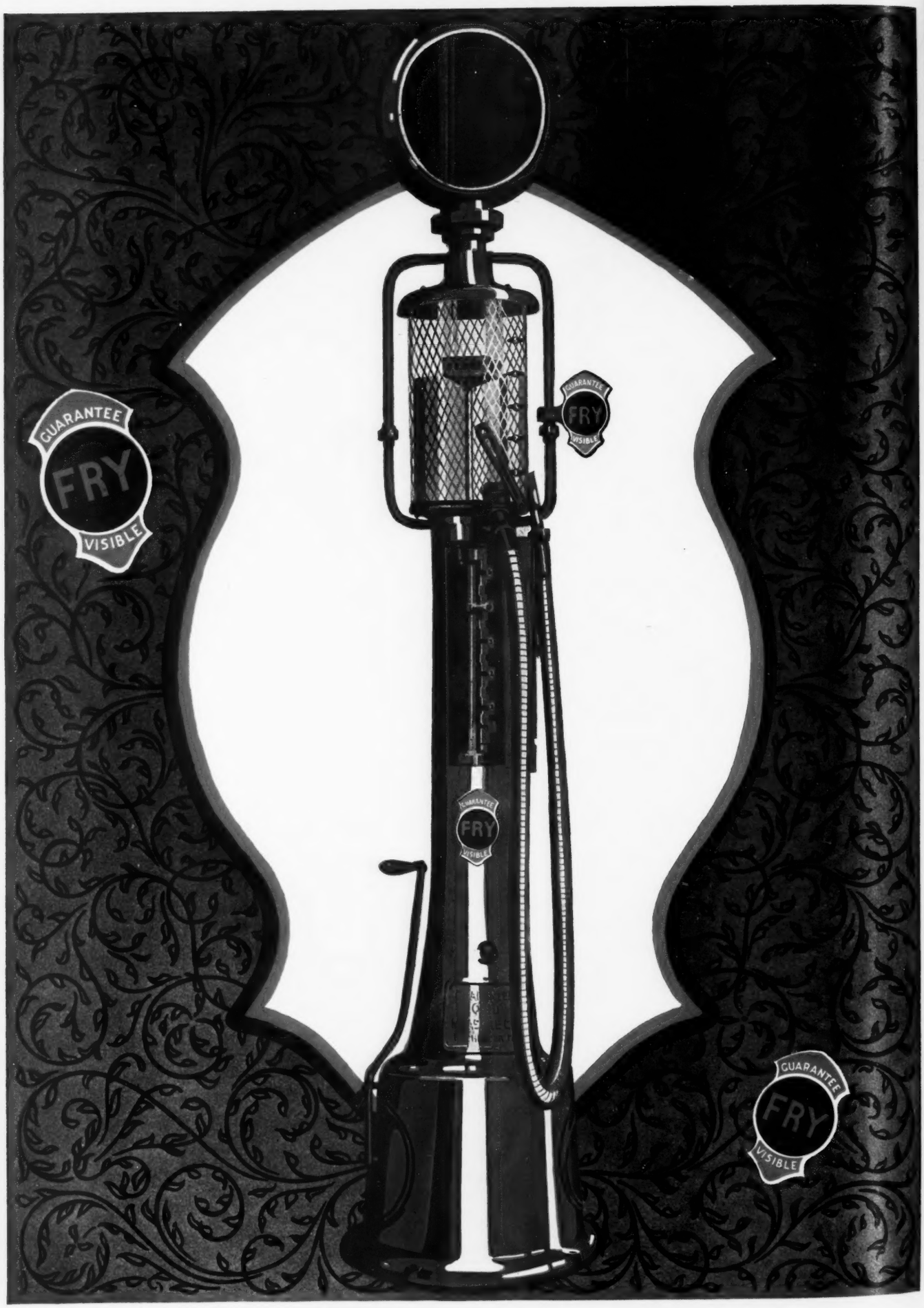
Investigate the sales stimulation value of these Marvel Oil Tank Outfits. Their business-like, "quality" appearance and quick clean service make an instantly favorable impression on motorists—help your dealers keep on selling your best quality oils. And don't overlook the advertising display opportunities offered by these smooth, straight-side containers!

THE MARVEL EQUIPMENT CO., *Cleveland, Ohio*
The Marvel Equipment Co. Ltd., 12 King St. East, Toronto, Ont., Canada.

MARVEL PUMPS

TRADE MARK REG. U. S. A. AND CANADA

Oil, Grease & Gasoline *Dispensing Equipment*


GUARANTEE
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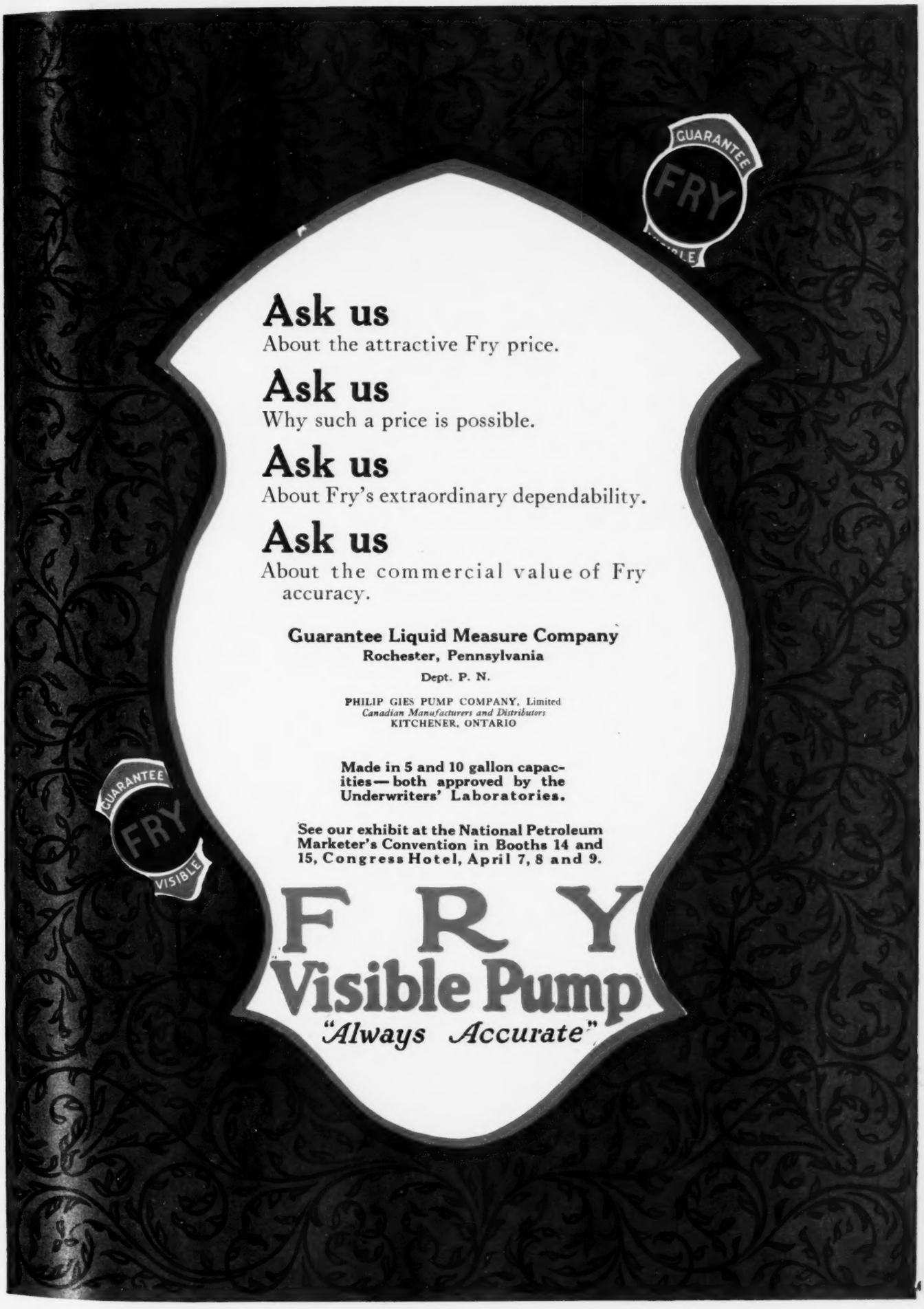


Ask us
About the attractive Fry price.

Ask us
Why such a price is possible.

Ask us
About Fry's extraordinary dependability.

Ask us
About the commercial value of Fry accuracy.

Guarantee Liquid Measure Company
Rochester, Pennsylvania
Dept. P. N.

PHILIP GIES PUMP COMPANY, Limited
Canadian Manufacturers and Distributors
KITCHENER, ONTARIO

Made in 5 and 10 gallon capacities — both approved by the Underwriters' Laboratories.

See our exhibit at the National Petroleum Marketer's Convention in Booths 14 and 15, Congress Hotel, April 7, 8 and 9.

GUARANTEE
FRY
VISIBLE

F R Y
Visible Pump
"Always Accurate"

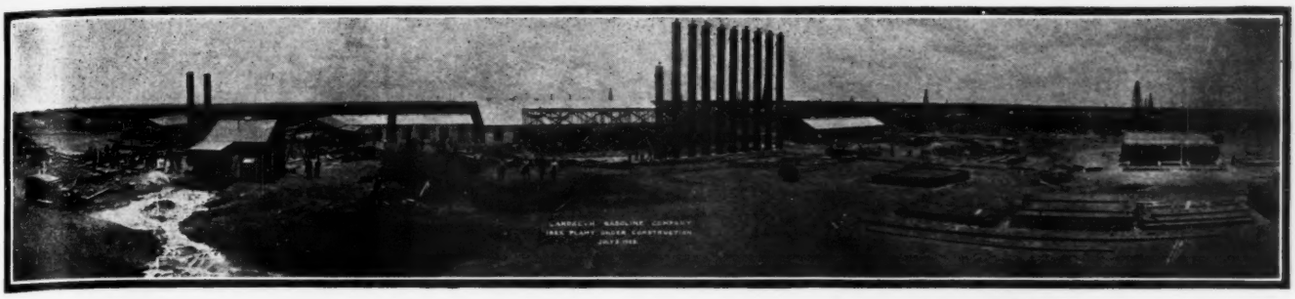
Cutting Down Overhead—

Ability of the independent jobber to deliver to his trade lubricating oils as received from his refinery source, without blending them, enables this jobber to operate his plant at a much lower cost, or to increase his gallonage without extra investment in additional storage, tanks, kettles, warehouse space, etc.

Deepwater lubes are straight run and 100% overhead distilled. They go direct to the jobber's trade as they are received from us in tank cars or drums.

Deepwater Oil Refineries

The Independent Jobber's Refiner HOUSTON-TEXAS



100% STERLING

in the two largest gas absorption plants in the mid-continent field

The reason is apparent:

HALF the space occupied by the old fashioned coil for the same condensing surface, and consequent reduction in pit area.

Longer Life — made of cast iron, to resist the corrosive action of water without, and acids in the oil vapors within.

Any section can be quickly removed for cleaning, repair or replacement.

If you haven't received our new book giving the full facts about Sterling Oil Sections, write the address below.

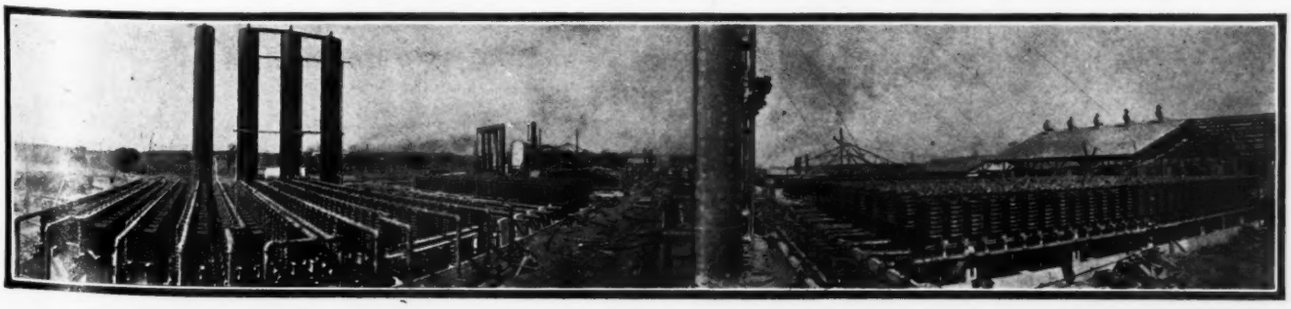
STERLING OIL SECTIONS

For manifold use — for continuous use — for cooling

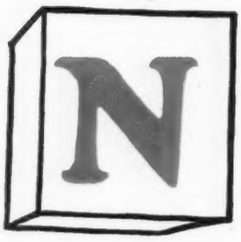
AMERICAN RADIATOR COMPANY

Industrial Sales Office: **Dept. T-70, 1807 Elmwood Ave., Buffalo, N. Y.**

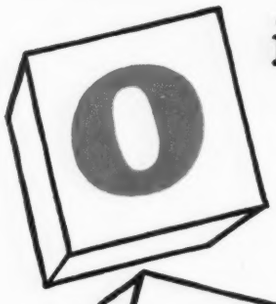
Sterling Condensing Sections are immediately available at our plants in
Kansas City, Mo. Springfield, Ohio Buffalo, N. Y.



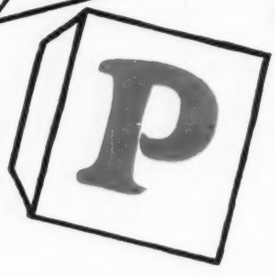
is for motorists from near and far



is for now — the right oil for each car



is for Emery Oils - they excell



's for Petroleum Products as well

Guaranteed 100% PURE PENNSYLVANIA OIL

The highest grade oil in the world

OFFICIAL INSIGNIA OF THE PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION
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Emery Products Include:

NAPTHA, GASOLINE, KEROSENE, VISCOUS NEUTRALS, BLENDED OILS, TRACTOR OILS, STEAM REFINED CYLINDER STOCKS, BLACK OILS, PARAFFINE WAX, ETC.

JOBBERS who want to sell a Quality Line—turn to Emery as a natural source of supply, because for practically the entire period of years covering the history of Petroleum refining, this old, strong Company has always maintained a fixed ideal of Quality—the best that can be made.

Emery Gasoline is made of 100% Bradford, Pennsylvania, Paraffine Base Crude,—the world's finest crude Petroleum.

If you are not selling the Emery Quality Line you are passing up a mighty profitable part of your business. Get in touch with us today.

EMERY MANUFACTURING COMPANY
Bradford, Pennsylvania
Refiners of Bradford, Pennsylvania, Paraffine Base Crude

Emery motor oils

Scrappers!...

KELLY KATS
TRADE MARK REG.
THE TIRES WITH NINE LIVES

If you are sick and tired of timid truck tires that delay and dally at every suggestion of a bad road or heavy load, you need Kelly Kats—and need them badly.

They're scrappers, these Kelly Kats. They do battle without chains. They sink their toothlike grip into mud. They crunch undaunted through slush or sand or over wet pavement.

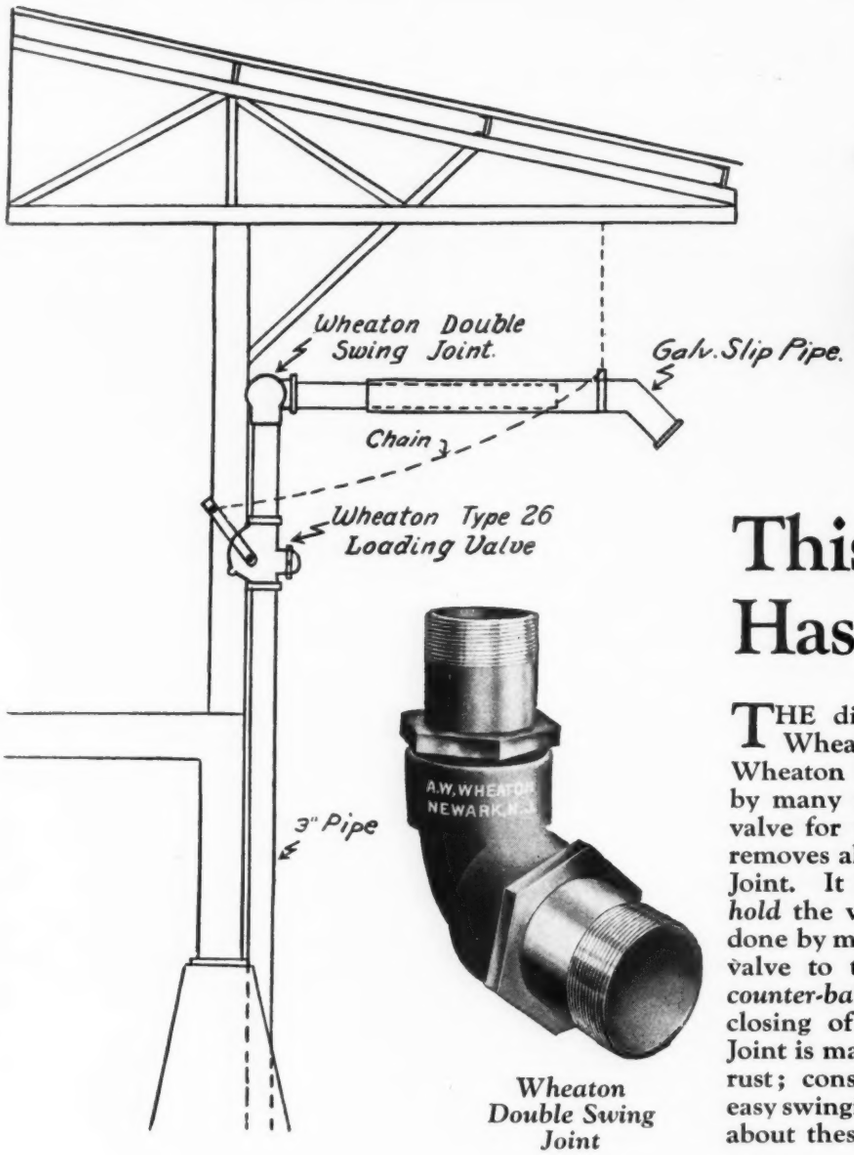
And all the while, those characteristic side-vents which you see on the Kelly are shielding your truck and especially its engine from bumps and jars. These vents double the cushioning power of Kelly Kats.

It is due to such performance for over seven years that so many truck owners have scrapped ordinary solid truck tires for these scrappers, until today more Kelly Kats are used than any other truck tire made.

There are no Caterpillar tires but Kelly Kats

KELLY-SPRINGFIELD TIRE CO.
250 West 57th Street, New York.

Kelly-Caterpillar Tires are scrappers on all kinds of trucks in any kind of service. That is why they are so widely used by truck owners in every line of industry.



Wheaton Type 26 Loading Valve

Wheaton Double Swing Joint

This Installation Has Proved Right

THE diagram at the left shows how the Wheaton Type 26 Loading Valve and the Wheaton Double Swing Joint are installed by many engineers. Type 26 is a straight valve for mid-line location, which position removes all pressure from the Double Swing Joint. It is *self-closing*—the operator must *hold* the valve open while loading. This is done by means of a chain extending from the valve to the tank-truck. Also Type 26 is *counter-balanced*, which assures slow, smooth closing of the valve. The Double Swing Joint is made from a brass alloy that cannot rust; consequently its close, smooth fit and easy swinging action *last*. Let us tell you more about these two Wheaton *quality* products.

A. W. WHEATON BRASS WORKS, NEWARK, N.J.

Wheaton

TRACTOR OILS

	Price
Bronoco Tractor	.34
Bronoco Hy. Tractor	.35
Bronoco X Hy. Tractor	.36
Bronoco XX Hy. Tractor	.37

	Price
Gold Seal Tractor	.32
Gold Seal Hy. Tractor	.33
Gold Seal XHY. Tractor	.34
Gold Seal XX Hy. Tractor	.35

	Price
Special A Tractor	.22
Special B Tractor	.24
Special C Tractor	.26
No. 12 Special Low Cold Test	.32
No. 18 Special Low Cold Test	.34

BRONOCO TRACTOR OILS
None Better Than This Line

Color	Gravity	Flash	Fire	Vis@110	Vis@210	C.T.
Bright Red	22	430	485	1200	92	25
Bright Red	22	435	490	1500	95	25
Bright Red	21	435	500	1900	110	30
Bright Red	21	440	505	2500	131	30

GOLD SEAL TRACTOR OILS

Color	Gravity	Flash	Fire	Vis@110	Vis@210	C.T.
E. Filt.	21	390	440	1200	89	35
E. Filt.	20	392	445	1500	95	35
E. Filt.	18	395	450	1900	103	40
E. Filt.	16	410	485	2500	121	40

SPECIAL TRACTOR OILS
Substantial Oils—At a Low Price

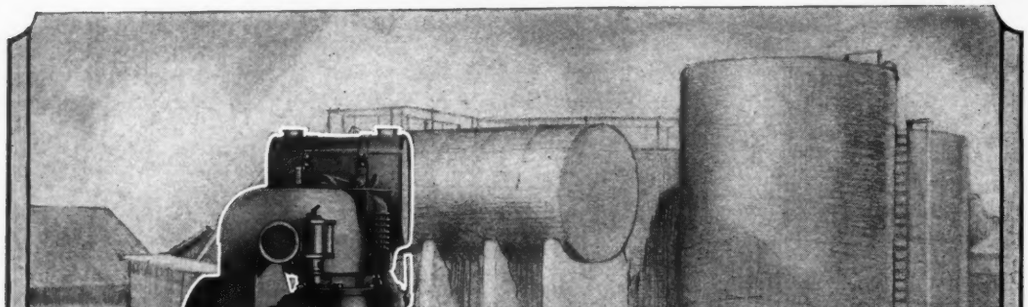
Color	Gravity	Flash	Fire	Vis@100	Vis@210	C.T.
Dark Gr.	21-22	390	450	——	91	——
Dark Gr.	21-22	400	465	——	97	——
Dark Gr.	20-21	410	485	——	106	——
5	15-16	380	435	1200	69	0
5	15-16	——	——	1800	——	0

THEY are calling for tractor lubricants in your territory—*now*. The jobbers who handle complete lines of dependable oils will get the business. You'll find every tractor need answered in the thirteen grades that are listed above. Try Old Man Oil's service on your tractor requirements. It will please you so well that you'll depend on him for every petroleum product that you sell. Write and ask him how he pleases successful jobbers everywhere.

R. J. Brown Petroleum Co.
Boatmen's Bank Bldg. . . . . St. Louis

BRONOCO

BLACKMER ROTARY PUMPS



Blackmer Standard Double Unit powered with New-Way air-cooled Engine.

They Wear In—Not Out

The Blackmer principle of operation enables the Blackmer Rotary Pump to take up its own wear. This insures a continued and even wearing-in of parts, eliminating slippage and loss of efficiency. It makes replacement of parts practically negligible, and thus effects a very low, fixed, operating cost. The principle of working adjustment is proved correct by twenty years of satisfactory operation by Blackmer owners.

The Standard Double Unit, pictured above, is specially suited to meet the needs of bulk distributing stations.

It has been standardized to profit by the economies of large quantity production, making possible a reduced price. The high standard of Blackmer quality remains unchanged.

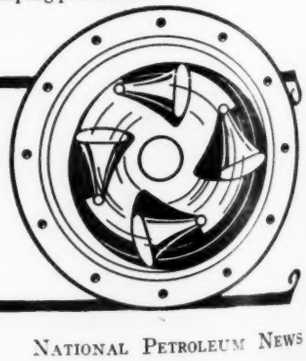
This new unit consists of two 100 G.P.M. Blackmer Pumps, mounted with clutches, on an extra heavy, cast iron base, with or without space for a firewall.

It is equipped with either of three types of power units. Electric unit will accommodate 1800 speed motor, 2 to 5 H.P. Engine unit includes Novo engine 2 to 4 H.P., or New-Way air-cooled 3 to 5 H.P.

Built for long service and subjected to the same rigid tests which all Blackmers must pass, this new model will deliver its rated gallonage, year after year, with a scarcely perceptible drop in efficiency.

We continue to build pumps to specifications when desired. Our engineers are always ready to serve you on any pumping problems.

Write our nearest branch office for catalog and prices.



BLACKMER ROTARY PUMP Co.

Petoskey, Mich.

New York, Minneapolis, Houston, Detroit, Milwaukee, Philadelphia, San Francisco, Indianapolis, Chicago, Pittsburgh, Kansas City, Baltimore, Louisville, Atlanta, Buffalo, Boston, St. Louis, New Orleans

Canadian Branch—London Concrete Machine Co., London, Ontario.